GOVERNMENT OF INDIA
RAILWAY DEPARTMENT
(RAILWAY BOARD)

REPORT
BY THE
RAILWAY BOARD
ON
INDIAN RAILWAYS
FOR
1930-31

Volume I

CALCUTTA: GOVERNMENT OF INDIA
CENTRAL PUBLICATION BRANCH
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(2) Classified List and Distribution Return of Officers of all Indian Railways. Published half-yearly. Price Rs. 1-12-0 or 3*s.*

(3) History of Indian Railways, constructed and in progress corrected up to 31st March 1928. Published quinquennially. Price Rs. 5-8-0 or 9*s.*

(4) History of Services of the Officers of the Engineer and Superior Revenue Establishment of State Railways. Published yearly. Price Rs. 23-8-0 or 37*s.*

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TECHNICAL PAPERS.

(6) Over 279 papers have been published by the Technical Section of the Railway Board's office. The papers comprise:—

(*a*) Original descriptions of railway works and studies of railway problems in India and elsewhere.

(*b*) Reprints of articles from foreign engineering magazines.

(*c*) Reprints or abstracts of reports received by the Government of India on subjects connected with railways.

A complete list of the papers can be obtained *gratis* from the Chief Controller, Standardisation, Central Standards office for Railways, Simla/New Delhi. A few of the more important Technical papers are mentioned below:—

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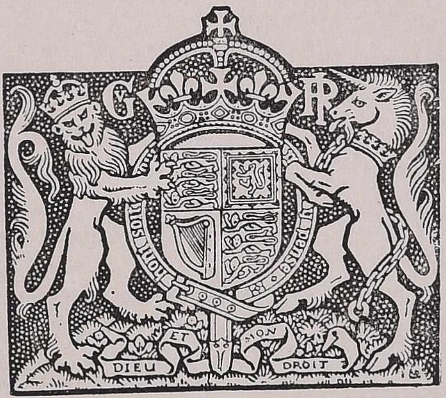

CALCUTTA: GOVERNMENT OF INDIA
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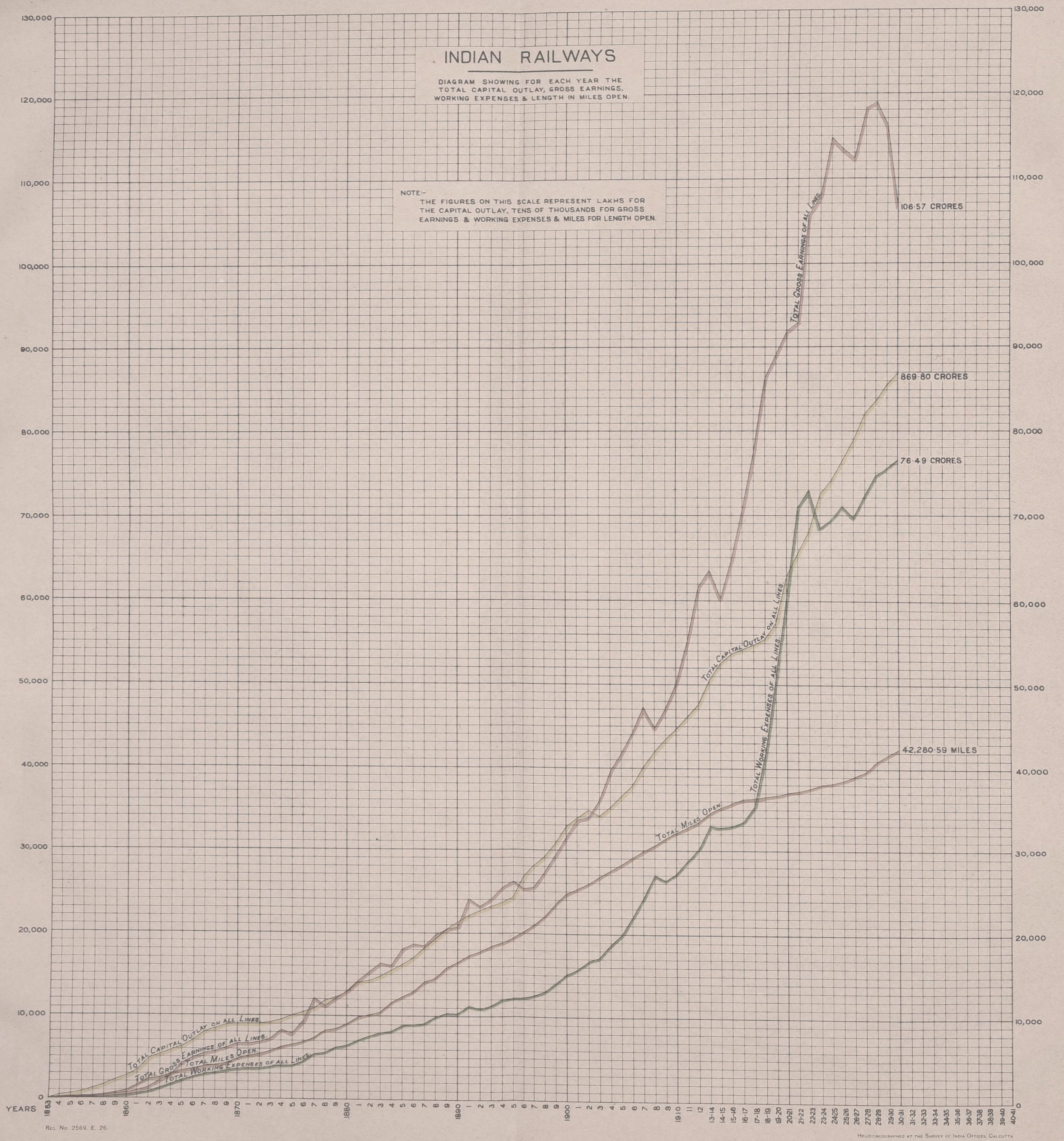

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Bally Bridge—350′ span being warped to its final position.

CHAPTER I.

GENERAL ADMINISTRATION.

1. General Review.—The Railway Board's Annual Report on Indian Railways is published in two volumes. Volume I is the report proper and reviews the general administration and the financial results of the railways with a commentary upon items of outstanding interest that have occurred during the year. Such matters as new construction of railway lines and rolling stock, methods of transportation and modernisation of them, establishment arrangements, including the recruitment, training and welfare of the staff, and other matters having an important bearing on railway management and operation, are also discussed. Volume II is a compilation of financial and statistical summaries and statements covering the main heads of the capital and revenue accounts and are sufficiently comprehensive to embrace the complete range of railway working. For reasons of finance and for accommodation in connection with the dates for the presentation of the Railway as well as the General Budget in the House of the Legislature, the period for which the report is prepared is reckoned from the 1st April in one year to the 31st March in the following year.

India being primarily an agricultural country, the welfare of whose inhabitants and the general prosperity of which is largely dependent on her exportable surplus of staple products, it has been customary in the past to remark in the opening chapter upon the incidence and effectiveness of the monsoon rainfall, and no exception is being made to that procedure in the present report. The year 1930-31, however, was unusual in that it marked the commencement of an economic phase when other than natural and internal conditions influenced the well-being of the country. India's prosperity, no less than that of other lands, was acutely affected by the stagnation in the movement of the world's primary products, and the decrease in the transportation by railway of the commodities which have formed the principal items of traffic in the past has inevitably affected the earnings of practically all lines. The main monsoons lasting, as they do in normal years from the month of June until the end of September, gave fairly well-distributed rain throughout the country, although its activity in August was confined mainly to Burma and North-East India. The total rainfall was slightly below normal over the plains of India as a whole. During the period of the withdrawal of the monsoons rainfall was defective in Burma, the United Provinces, the Punjab, the North-West Frontier Provinces and Sind, normal in Bengal and Central India, and above normal elsewhere. Taking the year as a whole the total rainfall throughout the country was within 16 per cent. of the normal except in the south-east of Madras and on the north coast of that Presidency where it was in moderate excess.

The seasons, on the whole, were favourable for agriculture and the outturn of most of the principal crops showed an increase on the previous year. In the case of cotton and indigo, however, a reduction of 6 per cent. took place. The outturn of sugarcane and sesamum increased by 15 per cent. and that of jute, groundnut, rice and castor seed by 8, 12, 1 and 3 per cent. respectively as compared with the preceding year. The wheat crop of the previous year 1929-30, which was mostly moved during the year under review, was a record one, having been 20 per cent. greater than in the preceding year. Of the winter oilseed crops, the production of rape, mustard and linseed also increased by 20 and 18 per cent. respectively as compared with the preceding season.

2. The depressed state of Indian trade during 1930-31 is reflected in the large decrease which has to be recorded in the gross earnings of the railways. The earnings of State-owned lines fell from Rs. 102 crores in 1929-30 to Rs. 95 crores in 1930-31, representing a decrease of approximately Rs. 7

crores. The net loss from the working of State-owned railways was Rs. 5·19 crores. In accordance with the convention regarding the separation of railway from general finances, a contribution of Rs. 5·74 crores, was made from railway to general revenues for the year, the amount being taken from the railway reserve fund. The decline in earnings was as much due to the fall of passenger traffic as of goods: the earnings from passenger traffic on all railways both State-owned and others fell from Rs. 38·6 crores to Rs. 34·3 crores, a decrease of 4·3 crores, while the earnings from goods carried fell from Rs. 68·8 crores to Rs. 64·4 crores, a decrease of Rs. 4·4 crores. The more noticeable decreases in the movement of goods traffic were in the export of jute and cotton and fewer shipments of oil-seeds. In sympathy with depressed trade there was smaller movement of passengers whether travelling short or long distances.

3. A further 573 miles of railway line were opened during the year but owing to the re-alignment and closing down of small sections of line, the net addition to the mileage of railways during the year was 557 of which 255 belong to the State. The total route mileage at the end of the year was 42,281. In addition, 810 miles were under active construction on 31st March 1931. During the year sanction was accorded to the construction of new lines totalling 168 miles.

4. Railways and the Legislature.—A large number of questions was asked in the Legislative Assembly and Council of State during the sessions held in 1930-31, and there is ample evidence that the members of the Legislature continue as in the past to take a close interest in the working of the railways in India. Out of a total of 2,298 questions 723 or 31 per cent. referred solely to railway matters. The subjects in which the greatest interest was manifested related to appointments on railways, the representation of different communities in the railway services, purchase of railways, conditions of employment, recruitment both to the subordinate and superior grades, train services, and construction of new lines.

Apart from questions, notice was given of 10 resolutions in the Assembly and Council of State during the Simla session of 1930, and 22 resolutions during the Delhi session of 1931. Out of a total of 6 resolutions that found a place in the ballot, one was withdrawn, and of the remaining five, three came up for discussion, namely:—

(*i*) A resolution moved in the Council of State on the 10th of July 1930, recommended the transport by railways at reduced rates of aged and disabled horses and cattle to asylums and free grazing grounds. The proposal was made on humanitarian considerations, it being urged that as asylums and grazing centres were few and at long distances, assistance might be forthcoming from Railways for the transport of these animals at concession rates. To prevent abuse of the concession the mover suggested that certificates from veterinary surgeons should be required before a concession was allowed. Government opposing the resolution explained that the present scale of charges for the transport of cattle was so low as to provide only a very small margin of revenue between expenditure and receipts. It was also stated that there would be considerable administrative difficulties in giving effect to the proposal, as there would be no certain guarantee that the animal in respect of which a certificate might be issued was the one actually brought for despatch by train. The motion was negatived without a division.

(*ii*) Under the terms of the contract with the Assam Bengal Railway Company for the maintenance and management of the Railway, the contract is determinable by the Secretary of State on the 31st December, 1931, or on the 31st December of any succeeding tenth year, by giving not less than 12 months' previous notice to the Company of intention in that behalf. A resolution moved on behalf of Government on the 14th July, 1930, in the

Legislative Assembly, recommended that in view of the requirements for new construction and open line works on railways and for other reasons, the purchase of the Assam Bengal Railway Company's interest in the Assam Bengal Railway would not be financially profitable and notice of purchase should not be given unless it proved possible to devise some expedient by which the purchase money could be found on favourable terms. The Hon'ble Member for Commerce and Railways explained that on account of loss of Indian income-tax on the Company's earnings and the high interest charges that would be payable on the sum required to meet the purchase price, the transaction would not be a profitable one. He also stated that the purchase of the railway might eventually mean the postponement of the beginning of important projects such as the Bombay Sind connection and the Dacca Aricha Railway. He pointed out that although surplus profits had accrued in the working of the Assam Bengal Railway for the last four or five years due, perhaps, to the policy adopted of building short branch feeder lines, and although the development of this policy might be assumed to bring in additional revenue, funds would not be available to build feeders, if large sums of money were spent in acquiring the line, so that it could not be expected that the surplus profits could continue to increase in the same proportion after the purchase. Further it was explained that the railway had always been economically managed and if it were brought under State-management, it was probable that the State would be faced with a strong demand that the scales of salaries and emoluments of all ranks should be raised to the same standard as on other State-managed railways. After discussion an amended resolution was moved and adopted recommending that negotiations should be undertaken with the Assam Bengal Railway to obtain for Government one year's extension of their existing option to terminate the company's contract on the 31st December, 1931. The Assam Bengal Railway Company, however, were not prepared to agree to the extension suggested by the Legislative Assembly and in view of the prevailing financial difficulties and the fact that the acquisition of the line on the 31st December 1931, was not likely to be profitable, notice for the termination of the contract on that date was not given. Thus the contract will continue for a further period of ten years, the next date for its determination falling on the 31st December 1941.

(*iii*) A resolution moved in the Legislative Assembly on the 16th July 1930, recommended that steps should be taken in all cases of railway accidents entailing loss of human lives, (1) to institute a coroner's enquiry, (2) to deliver the bodies of the deceased to the relatives concerned as far as practicable, failing that to different social service organisations, and (3) to institute a judicial enquiry by a committee to be composed of officials and non-officials. It was alleged during the debate that railway accidents were becoming more frequent and that the versions of the number of casualties and of the steps taken for the succour of the injured made impressions on the public mind which were difficult to remove even if they were subsequently proved to be inaccurate. It was stated on behalf of Government opposing the resolution that there was obvious difficulty in having a coroner's enquiry in such cases, as the procedure followed in a coroner's court was by no means identical with that adopted at a magisterial enquiry. Apart from this aspect of the matter, under the existing rules every serious accident occurring on a railway formed the subject of an enquiry both by the railway authorities and the police. In addition the District

Magistrate either held an enquiry himself or deputed some other magistrate to enquire whether action under the criminal law should be taken. It was also explained that it was a matter for local Governments to decide whether non-officials should sit as assessors with the magistrate and whether or not an enquiry was called for. Government were prepared however, to refer the points raised to local Governments and on receipt of their replies to place the matter before the Central Advisory Council for Railways. As regards the disposal of dead bodies the matter was purely one for consideration by the police authorities. Ordinarily the bodies of persons killed in railway accidents were made over to the relatives, but if the relatives could not be found, there was no objection whatsoever to charitable organisations taking charge of them. The resolution was withdrawn.

5. Railway Budget.—The Railway Budget for 1931-32 was presented to both the Houses of the Legislature on the 17th February 1931, after having been discussed in detail with the Standing Finance Committee for Railways in their meetings held at the end of January and in the second week of February, 1931. The budget was discussed generally in the Legislative Assembly on the 19th February, 1931, and in the Council of State on the 21st February, 1931. The voting on the demands for grants in the Legislative Assembly took place during the four days February 23rd to 26th.

During the discussion of the budget in the Assembly, criticism was mainly directed on two important points—the need for retrenchment in railway expenditure and the representation of Muslims in railway services.

Of the motions for reduction made during the debates on demands for grants, only two were carried and two more were pressed to a division but lost. Of the two motions carried one reduced the demand for the Railway Board by Rs. 1,00,000. To give effect to this cut the Railway Board made certain retrenchment in their staff and some posts including those of officers have been held in abeyance. The second cut carried was of Rs. 100 only and was intended to criticise the policy of the Government with regard to Indianisation on the railways. One of the cuts proposed was to draw attention to the inadequate representation of Muslims in the railway services. This was, after full discussion, finally withdrawn by the mover.

6. Standing Finance Committee for Railways.—During the year under review the Committee held meetings on seven occasions. They scrutinised the proposals for expenditure to be incurred in the year 1931-32, both on capital and revenue account, that is, on works of improvement and renewals on open lines, the construction of new lines and the provision of additional rolling stock or renewal thereof. Among the more important engineering works specially approved by the Committee may be mentioned the doubling of the East Indian Railway line from Cawnpore to Tundla, a length of 141 miles estimated to cost Rs. 93·82 lakhs, and the remodelling of the workshops at Jamalpur, East Indian Railway, estimated to cost Rs. 66·65 lakhs. The Committee also examined the general recommendations contained in Sir Arthur Dickinson's report on the system of accounting, audit and statistics of railways. They scrutinised proposals regarding the reorganisation of cadres on railways, including the establishment of the Central Standardisation Office and the abolition of the post of Technical Officer, Railway Board.

7. Central Advisory Council for Railways.—During the year 1930-31 two meetings of the Central Advisory Council were held, one in July 1930 in Simla and the other in March 1931 at New Delhi. The subjects discussed included the following :—

Supply of drinking water to passengers in trains.—A member suggested that voluntary organisations should be permitted to undertake the supply of water to passengers. The Chairman explained that the subject had been discussed with Agents of railways, who were unanimously of opinion that the supply of drinking water to passengers was primarily the concern of railway

administrations. After discussion it was agreed that two organisations were not necessary for this work. In the course of the debate, mention was made of an experiment that had been tried, but without success, on one railway to provide cold drinking water in third class compartments. The Chairman suggested that experiments should be continued to see if it were possible to evolve some scheme at a reasonable cost, whereby cold water for drinking purposes could be supplied in the compartments of third class carriages. It was also suggested that orders should be issued to Agents, that before the beginning of each hot weather, they should consult their Local Advisory Committees regarding the arrangements for the supply of drinking water, who might be in a position to give valuable assistance in this respect.

Rules for the recruitment and training on State-managed railways of apprentice mechanics and trade apprentices.—In the course of the discussion several suggestions were made, *e.g.*, reduction of the age limit, increase in stipends, reduction in the period of training, period of apprenticeship to be counted as service for gratuity, all of which have received careful consideration.

Re-organisation of the cadres of the superior services on State-managed railways.—The principal features of the scheme are the institution of a separate cadre for each of the State-managed railways; the provision of a suitable reserve for leave, deputation and training; the abolition of the provincial engineering and local traffic services; and the constitution of a new gazetted service for promotion of deserving subordinates. The Council approved of the proposals.

General policy for assistance from railway funds to railway employees for the education of their children.—The new educational policy of the Railway Board was explained and approved by the Council.

Rules for the recruitment and training of subordinate staff on State-managed railways.—The discussion centred round the subject of community representation in the services, and it was explained that the main object of the rules was to provide proper treatment of the interests of each and every community. The rules were agreed to by the Council.

Elimination of racial discrimination in railway services.—As the question had been discussed at length along with the rules for the recruitment and training of subordinate staff on State-managed railways, it was agreed that no further discussion was necessary.

Rules of the railway staff benefit fund for State-managed railways.—This fund takes the place of the former fine fund from which assistance, not provided for under the ordinary rules governing expenditure, could be given for the improvement of facilities for recreation and amusement for the staff and to individuals in cases of exceptional hardship. The rules of the new fund which provide for a contribution from revenue in order to make up the loss of income resulting from the restriction of the practice of fining, and for the association of the staff in the management of the fund, were accepted by the Council.

8. Extension of Government Audit on Company-managed Railways.—In 1925 the scope of audit on two company-managed railways was extended as an experimental measure in certain directions, particularly in the direction of greater inspection of initial records and documents in the offices in which the expenditure originated. The result of the partial extended audit established the desirability of extensive audit on behalf of the Secretary of State on all company-managed railways. The Committee of Public Accounts also, as a result of their examination of the accounts of 1927-28, emphasised the necessity of strengthening audit on company-managed railways. With the approval of the Secretary of State and the Standing Finance Committee, a scheme of extended audit was introduced on all company-managed railways as an experimental measure, for a period of 3 years, with effect from the 1st April 1930. The main features of the scheme are that it provides for the minimum amount of continuous test check at headquarters and at all workshops and stores depôts, for peripatetic audit of the less important stores depôts and

workshops, for inspection on the spot of initial accounts records, and surprise visits to engineering depôts, sheds, stations.

9. Meetings with Agents of Railways and Local Governments.—Meetings were held by the Railway Board with the Agents of the principal railways in October, 1930, at Simla and in March, 1931, in New Delhi. The following subjects, among others, were discussed :—

Grant of railway quarters or building sites to Trade Unions on railway land;

Design of broad gauge upper class coaching stock;

Prompt payment of wages to staff;

Senior officers' course at the Railway Staff College, Dehra Dun;

Procedure to be adopted in granting medical certificates to railway servants applying for leave on medical grounds;

Contracts for the provision at certain railway stations of licensed coolies for carrying passengers' luggage;

Discharge and dismissal of State railway non-gazetted government servants;

Access of representatives of Trade Unions to places of work;

Formation, constitution and functions of committees of representative members of minority communities for the purpose of assisting railway administrations in the recruitment of non-gazetted employees;

Control of expenditure under Abstract A (Maintenance of structural works) of the Revenue Accounts;

Adoption of "Ro-Railers" as on the London Midland and Scottish Railway;

Limitation of overtime;

Passes to contractors;

Economy.

Visits to the number of sixty-nine were paid by the Chief Commissioner of Railways, the Financial Commissioner of Railways or by a Member of the Railway Board to the headquarters of railway administrations and to the number of fifteen to local Governments. Copies of the tour programmes of the Hon'ble Member for Railways, the Chief Commissioner, the Financial Commissioner and Members of the Railway Board were sent in advance to local Governments and important mercantile associations, besides being communicated to the press.

10. New Stores Purchase Rules.—The new stores purchase rules promulgated with Government of India, Department of Industries and Labour, Resolution No. S.-217, dated the 12th December 1929, came into force from the 1st January, 1931. The rules provide that all articles required to be purchased for the public service, except those of a special or unusual character, must be purchased on the condition that delivery shall be made in India for payment in rupees in India. They also permit of a limited degree of price preference being accorded to articles produced or manufactured either wholly or partly in India. Departmental instructions were issued by the Railway Board during the year under review for the guidance of railway officers who may be required to make purchases of stores under the new rules.

11. Local Advisory Committees.—In previous reports reference has been made to the work that is being done by the Local Advisory Committees on railways in bringing to the notice of the railway administrations matters affecting the general public in their capacity as users of the railways. Committees have now been established and are functioning on all Class I Railways, except the Jodhpur Railway. A committee is also functioning on the Barsi Light Railway which is a class II railway. The committees constitute a valuable link between railways and their clientele. The interest taken in their work and the value attached to their influence continue to be reflected in the requests received from trade associations and other organisations for

representation on them. It has not always been possible to accede to these requests, as it is felt that the usefulness of the committees is likely to be impaired if their constitution becomes unwieldy. The desire for the publication of a summary showing the work done by the committees has been met by publishing quarterly a pamphlet showing in tabulated form the subjects discussed, the recommendations of the committees accepted by the railway administration concerned, with or without modifications, and the recommendations which, for various reasons, could not be accepted. Copies of these pamphlets are available for sale at the Government of India, Central Publication Branch, Calcutta.

The number of meetings of the advisory committees held on each railway during the year was as follows:—

Assam Bengal Railway	2
Barsi Light Railway	1
Bengal and North-Western Railway—	
Gorakhpore (United Provinces)	4
Muzaffarpur (Bihar and Orissa)	4
Bengal-Nagpur Railway—	
Calcutta (Bengal)	11
Patna (Bihar and Orissa)	3
Nagpur (Central Provinces)	4
Bombay, Baroda and Central India Railway	12
Burma Railways	10
Eastern Bengal Railway	9
East Indian Railway—	
Calcutta (Bengal)	13
Cawnpore and Lucknow alternatively (United Provinces)	6
Great Indian Peninsula Railway—	
Bombay	12
Nagpur (Central Provinces)	3
Cawnpore (United Provinces)	3
Madras and Southern Mahratta Railway—	
Madras	7
Hubli (Bombay Presidency)	4
North Western Railway—	
Lahore (Punjab)	11
Karachi (Sind)	4
Rohilkund and Kumaon Railway	4
South Indian Railway	4
TOTAL	131

A wide variety of subjects has been discussed at the meetings, some of which may be mentioned in supplement of those detailed in the Railway Board's reports for previous years. They include such items as:—

Painting of railway carriages; inspection of railway carriages; provision of benches and electric fans at platforms; provision of electric fans in Intermediate and third-class carriages; special arrangements for festivals; special trains during the marriage season; provision of goods sidings; appointment of lady ticket checkers; reservation of compartments for ladies; steamer arrangements at ghat stations; reservation of berths; wharfage; provision of weigh bridges; speeding up of trains; tourist cars and specials; and toll on railway bridges.

12. Railway Rates Advisory Committee.—The Railway Rates Advisory Committee, which was constituted in 1926, continued to function under the presidentship of Sir Narasimha Sarma, late Law Member of His Excellency

the Viceroy's Executive Council. During the year the Committee enquired into and reported on the following three cases:—

Complaint from Mr. Manik Lal Pal and others alleging that the terminal charges on loose jute levied by the Assam Bengal Railway were illegal and unreasonable.

Complaint from the Kalyanpur Lime Works, Calcutta, alleging the unreasonableness of rates over the East Indian Railway for lime from Dehri-on-Sone to Howrah and certain stations on the Bengal and North-Western Railway, as compared with the corresponding rates from certain competing centres on the Naini-Jubbulpore Section of the Great Indian Peninsula Railway.

Complaint from certain sugar factory proprietors at Cawnpore regarding the rates for jagree over the Bengal and North-Western Railway, when consigned to stations on other railways *viâ* Cawnpore, the allegation being that the rates were unduly high.

Evidence in the first two cases was led at considerable length and in due course comprehensive reports were submitted by the Committee. In the first case the Committee's report is under consideration by Government. As regards the second, the Committee's recommendation, which supported the complainant's view except as regards the rate to Howrah, was accepted by Government. The third complaint was compromised by the parties during the course of the hearing.

Under instructions from the Government of India, the president of the Committee, in consultation with the railway member of the committee, examined various proposals that had been put forward from time to time for a revision of the Indian Railways Act (1890). In pursuance of a press communiqué issued by Government in November 1929, the president and the railway member conferred with commercial bodies, chambers of commerce, traders and others interested in regard to this matter, more particularly in regard to enactments dealing specially with the carriage of goods and passengers. The president's report on the subject is now under the consideration of the Railway Board.

CHAPTER II.

FINANCIAL RESULTS.

13. The principal results of working of railways are summarised in the table below :—

Particulars.		Class I Railways.	Other Railways.	Total of all Railways.
(*i*) Total route mileage open for traffic.	1929-30	37,535	4,189	41,724
	1930-31	**38,020**	**4,261**	**42,281**
(*ii*) Number of passengers originating.	1929-30	597,779,600	36,517,800	634,297,400
	1930-31	**542,062,100**	**33,764,400**	**575,826,500**
(*iii*) Number of passenger miles.	1929-30	22,194,143,000	858,857,000	23,053,000,000
	1930-31	**19,708,551,000**	**779,675,000**	**20,488,226,000**
(*iv*) Tons originating .	1929-30	85,964,000	*3,854,000	*89,818,000
	1930-31	**79,658,000**	**3,719,000**	**83,377,000**
(*v*) Number of ton miles .	1929-30	*21,265,304,000	259,332,000	21,524,636,000
	1930-31	**20,145,778,000**	**260,699,000**	**20,406,477,000**

* Revised figures.

14. Trade review.—*Exports.*—The world depression in trade had its effect upon the exports and imports of the country. The total value of the export trade in 1930-31 amounted to Rs. 220 crores as compared with Rs. 311 crores in the previous year, a decline of Rs. 91 crores or of 29 per cent. as compared with that year. Shipments of raw jute contracted from 807,000 tons valued at Rs. 27·17 crores to 620,000 tons valued at Rs. 12·88 crores. There was also a decline in the value of jute manufactures exported from Rs. 51·92 crores in 1929-30 to Rs. 31·89 crores during the year under review. Exports of raw cotton fell from 727,000 tons to 701,000 tons in quantity and from Rs. 65·08 crores to Rs. 46·33 crores in value. Despatches of cotton twist and yarn amounted to 23·5 million lbs. (Rs. 1·58 crores) against 24·6 million lbs. (Rs. 1·90 crores) recorded in 1929-30. Shipments of cotton piecegoods also showed a decline of 35 million yards in quantity and Rs. 1·35 crores in value and amounted to 98 million yards valued at Rs. 3·32 crores. The total exports of oilseeds receded from 1,195,000 tons (Rs. 26·47 crores) to 1,037,000 tons (Rs. 17·86 crores), a great part of this decline being accounted for by a falling off in shipments of groundnuts by 113,000 tons in quantity and by Rs. 6·72 crores in value. Among the other varieties of oilseeds, linseed showed an increase of 8,400 tons on the quantity side but a decline of Rs. 31 lakhs on the value side. Exports of grain, pulse and flour advanced by 104,000 tons to 2,614,000 tons, chiefly as a result of larger shipments of wheat, which amounted to 196,500 tons as compared with 13,000 tons in 1929-30. Exports of rice not in the husk, however, fell off from 2,298,000 tons to 2,254,000 tons during the year under review. Consignments of tea shrank from 376·6 million lbs. valued at Rs. 26·00 crores to 356·2 million lbs. valued at Rs. 23·56 crores. Hides and skins showed a decline of 8,000 tons under the raw varieties and of 3,000 tons under the tanned or dressed descriptions. Exports of lac were returned at 547,000 cwts. (Rs. 3·14 crores) against 669,000 cwts. (Rs. 6·97 crores) recorded in the preceding year. Shipments of coffee improved from 184,000 cwts. valued at Rs. 1·45 crores to 293,000 cwts. valued at Rs. 1·92 crores. There was a decline of about 20 million lbs. under raw wool, the year's consignments having amounted to 30·5 million lbs. only.

Imports.—Compared with 1929-30, the imports of foreign merchandise fell by Rs. 76 crores or 31 per cent., the total value recorded during the year under review having been Rs. 165 crores. The most noticeable decreases were those recorded under yarns and textiles and fabrics (—Rs. 39 crores), metals and manufactures thereof (—Rs. 8 crores), sugar (—Rs. 5 crores), machinery and mill-work (—Rs. 4 crores), and under grain, pulse and flour (—Rs. 3 crores). Coming to details, imports of cotton piecegoods contracted from 1,919 million yards valued at Rs. 50 crores to 890 million yards valued at Rs. 20 crores. Cotton twist and yarn also shrank from 44 million lbs. to 29 million lbs. in quantity and from Rs. 6 crores to Rs. 3 crores in value. Imports of iron and steel and manufactures thereof fell by Rs. 6 crores to Rs. 11 crores. Consignments of raw cotton from foreign countries more than doubled in quantity, totalling 58,000 tons against 24,000 tons recorded in 1929-30; but the value improved by a proportionately smaller margin from Rs. 3·42 crores to Rs. 6·39 crores. Imports of wheat amounted to 232,000 tons, which were smaller than the preceding year's receipts by 125,000 tons. Arrivals of sugar were on a reduced scale, total quantity imported having been 1,003,000 tons (Rs. 11 crores) against 1,011,000 tons (Rs. 16 crores) in 1929-30. Imports of oils fell off by 11 million gallons in quantity and by a crore of rupees in value, the major part of the decline having been due to smaller receipts of kerosene oil. There were also noticeable decreases under provisions and oilmen stores, glassware, hardware, paper and pasteboard and tobacco.

Balance of trade.—The visible balance of trade in merchandise and treasure in 1930-31 was Rs. 38 crores in favour of India as compared with Rs. 53 crores in the preceding year.

15. Financial results of working.—The general economic depression, the civil disobedience movement during the year, and the growing motor-bus competition everywhere combined to reduce gross traffic receipts by over 7½ crores below the previous year; and this, with an increase in interest charges of over two crores, resulted in a net loss of 5·19 crores from the working of railways as compared with a gain of 4·04 crores in 1929-30. In order to meet this deficit, and to pay the contribution to general revenues of 5¾ crores, the railway reserve fund had to be drawn upon to the extent of nearly 11 crores, leaving a balance of less than 5½ crores. The table below compares the financial results in 1930-31 with those of 1929-30.

(Figures in thousands.)

	1929-30.	1930-31.
	Rs.	Rs.
(*i*) (*a*) Gross Traffic Receipts . . .	1,02,70,29	**95,09,66**
(*b*) Surplus profits from subsidized companies	58,71	**20,36**
(*c*) Interest on Depreciation and reserve Funds	1,27,66	**1,32,21**
(*d*) Other Miscellaneous Railway Receipts	21,46	**20,89**
Total Receipts .	1,04,78,12	**96,83,12**
(*ii*) (*a*) Working expenses (excluding Depreciation)	55,58,95	**54,38,94**
(*b*) Depreciation	12,58,98	**13,06,53**
(*c*) Surplus profits paid to Companies	1,51,98	**1,16,30**
(*d*) Land and Subsidy to Companies	4,39	**5,90**
(*e*) Interest	30,46,06	**32,71,55**
(*f*) Miscellaneous Railway Expenditure	54,12	**62,68**
Total .	1,00,74,48	**1,02,01,90**

(Figures in thousands.)

	1929-30.	1930-31.
	Rs.	Rs.
(*iii*) Net—		
Gain	4,03,64	...
Loss	...	**5,18,78**
(*iv*) (*a*) Contribution from railway to general revenues . . .	6,11,96	**5,73,57**
(*b*) Amount transferred from Railway Reserve Fund . . .	2,08,22	**10,92,35**

In addition to the heavy decline in gross traffic receipts, there was a diminution of 38 lakhs in the surplus profits from subsidised companies of which the most important, the Southern Punjab Railway Company, was bought out in January 1930; and the total receipts fell by nearly 8 crores.

On the other hand, total working expenses were nearly $\frac{3}{4}$ crore lower than in 1929-30, in spite of the contribution to the depreciation fund being about half a crore higher. This reduction is, however, deceptive, as it is due to a credit to working expenses of about $1\frac{2}{3}$ crores by book adjustments with the Depreciation Fund of erroneous transactions in past years, (against a smaller adjustment of 40 lakhs in the previous year) and but for these adjustments, ordinary working expenses (exclusive of depreciation) would have been about the same as in the past year.

Miscellaneous railway expenditure showed a decrease of $\frac{1}{4}$ crore, as a result of the share of surplus profits payable to railway companies and Indian States being less than in the previous year.

16. These decreases amounting to a crore in all were insufficient to cover the growth in interest charges, and the total expenditure debited to railway revenues was $1\frac{1}{4}$ crores higher than in the previous year. The increase of $2\frac{1}{4}$ crores in interest charges is partly due to the increase in the capital at charge owing to new lines and open line works. Partly, however, it is due to a change in the method of calculating the average rate of interest on capital outlay after 1916-17. The previous procedure had been to arrive at the rate by dividing the total interest charges on loans floated after that date by the nominal amount of the debt outstanding. This did not represent the actual cost of borrowing as it did not make allowance for the circumstance of loans floated at a discount or at a premium. It was decided therefore to substitute in the calculation the actual amounts realised for the nominal amounts. This has resulted in an increase of approximately one-third of one per cent. in the rate and about a crore in the annual interest charges borne by railway revenues.

17. *Earnings*.—The table below compares the earnings of the more important individual railways in the two years 1929-30 and 1930-31.

(Figures in lakhs).

	1929-30.	1930-31.	Increase + Decrease —
	Rs.	Rs.	Rs.
North Western	15,97	**16,45**	+ 48
Eastern Bengal	6,73	**5,86**	− 87
East Indian	19,85	**18,24**	−1,61
Great Indian Peninsula	14,58	**13,33**	−1,25
Burma	4,87	**4,28**	− 59
Bengal Nagpur	9,32	**8,17**	−1,15
Bombay, Baroda and Central India . .	11,52	**10,90**	− 62
Madras and Southern Mahratta . . .	8,97	**7,98**	− 99
South Indian	6,33	**5,80**	− 53
Other railways	4,55	**4,08**	− 47

The only railway which shows an increase is the North Western: and, here, the purchase of the Southern Punjab Railway on 1st January 1930, and the inclusion of its earnings for the whole year, conceals a real decrease of over half a crore. Other railways fared as badly, or worse.

The East Indian and the Great Indian Peninsula Railways fared worst on actual figures, being about $1\frac{2}{3}$ and $1\frac{1}{4}$ crores down respectively, but these represented only about a twelfth of their previous year's earnings. The decrease on the Bengal Nagpur Railway was over a crore—nearly an eighth, and that on the Madras and Southern Mahratta Railway just under a crore—a ninth of its earnings in 1929-30. Relatively the worst sufferer was the Eastern Bengal whose earnings fell by 13 per cent. or 87 lakhs.

The decrease of 161 lakhs on the East Indian Railway is, apart from the general trade depression, principally due to road motor competition, the Kumbh Mela at Allahabad in 1929-30, decreased movements of Burma and Bengal rice and boycott of Java sugar and foreign cloth. The decrease of 125 lakhs on the Great Indian Peninsula Railway was due to reduced export of cotton due to greater production in America, less consumption of coal by the public, competition of Soviet Russia in the traffic of metallic ores, lack of money among agriculturists for travel purposes and fall in market prices. The fall on the Bengal Nagpur Railway was due to the decrease in the manganese traffic in spite of the introduction of reduced rates to revive the trade. The passenger and goods traffic on the Madras and Southern Mahratta Railway, though the latter showed improvement towards the end of the year, was badly hit by general trade depression combined with low prices and the result was a drop of 99 lakhs in the earnings. Among those which suffered a comparatively smaller loss are the Bombay, Baroda and Central India, Burma and South Indian Railways. The loss on the Bombay, Baroda and Central India Railway occurred under coaching traffic, general merchandise, fuel and military traffic. The loss on the South Indian Railway was due to floods and breaches, and motor bus competition. The decreases on the Assam Bengal and Bengal and North-Western Railways were due to the poverty of the agriculturist class owing to the fall in prices of produce.

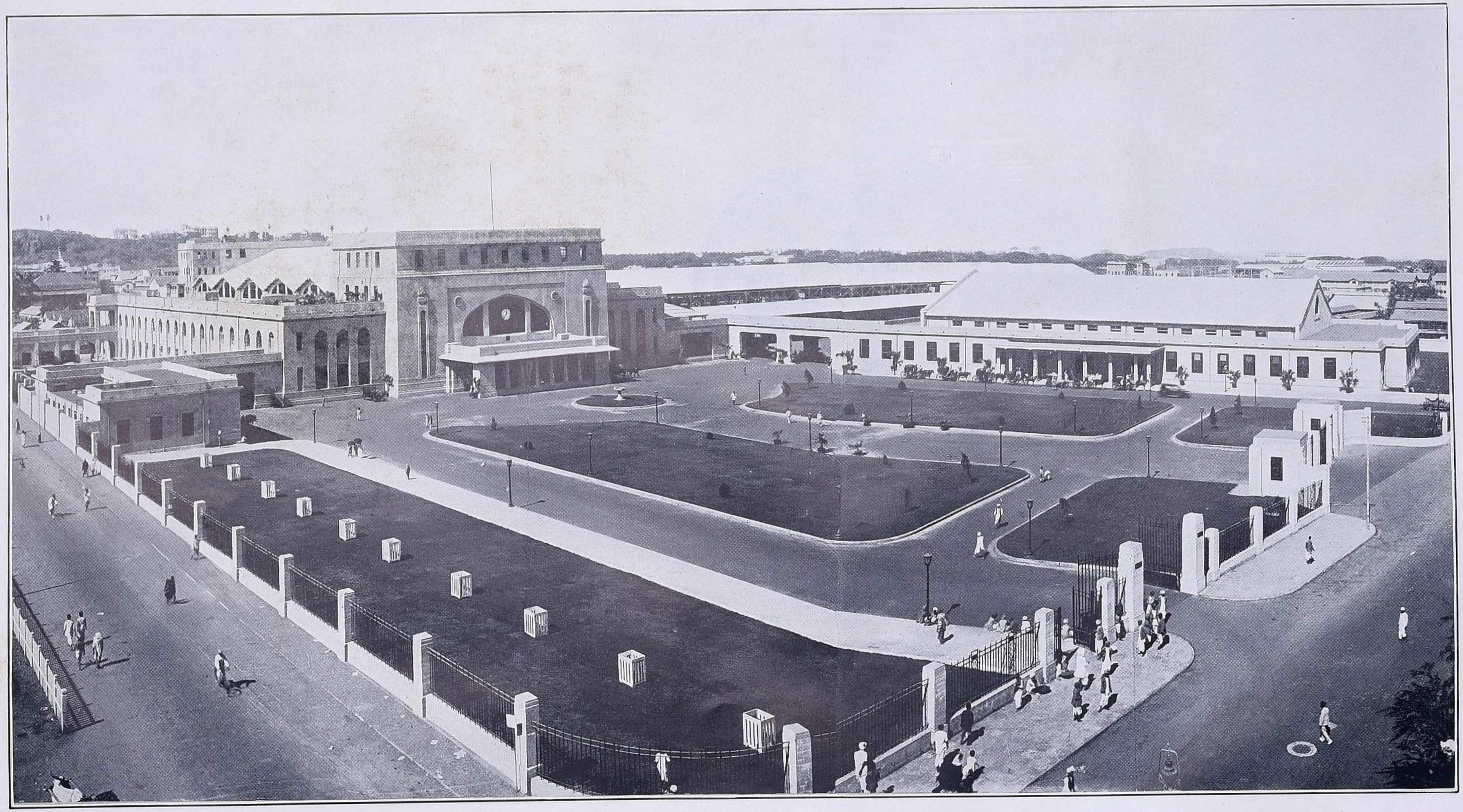
18. *Ordinary working expenses* (*excluding depreciation*).—The table below shows the variations in ordinary working expenses on individual railways: (neglecting the book adjustments already referred to)—

(Figures in lakhs).

	1929-30.	1930-31.	Increase+ Decrease—
	Rs.	Rs.	Rs.
North Western	10,14	**10,79**	+65
Eastern Bengal	3,84	**3,74**	-10
East Indian	10,21	**9,95**	-26
Great Indian Peninsula	8,37	**8,57**	+20
Burma	2,57	**2,61**	+ 4
Bengal Nagpur	5,68	**5,35**	-33
Bombay, Baroda and Central India	6,21	**6,14**	- 7
Madras and Southern Mahratta	3,95	**3,88**	- 7
South Indian	2,84	**2,87**	+ 3
Other railways	2,18	**2,14**	- 4
Total	55,99	**56,04**	+ 5

The large increase in the North Western Railway is mainly accounted for by the purchase of the Southern Punjab Railway.

19. In the following table the working expenses of 1929-30 and 1930-31 are compared by the major heads into which railway expenditure is divided.



Bombay Central Station opened on 18th December 1930.

	(Figures in thousands.)		
	1929-30.	1930-31.	Difference.
	Rs.	Rs.	Rs.
1. General Administration . .	14,39,85	**14,88,96**	+49,11
2. Repairs and Maintenance and Operation	44,48,33	**42,12,99**	-2,35,34
3. Appropriation to Depreciation Fund	12,58,98	**13,06,53**	+47,55
Total .	71,47,16	**70,08,48**	-1,38,68
Deduct—Worked lines and suspense	3,29,23	**2,63,01**	-66,22
Total Working Expenses .	68,17,93	**67,45,47**	-72,46

20. The usual increase in expenditure classified under general administration due to accrual of increments and employment of additional staff for new lines has been added to by special circumstances such as gratuities to discharged workmen, *e.g.*, on the transfer of the Bombay, Baroda and Central India Railway workshops to Dohad.

More than half of the decrease of 235 lakhs under repairs and maintenance and operation is due to the book adjustments already referred to; but, to the extent of 110 lakhs, there has been a real decrease. This reduction has been effected by the special efforts made by railway administrations to economise expenditure. The main directions in which economies were initiated during the year were reduction in train mileage; increase in the period between repairs to rolling stock and structures; closing down unimportant stations, yards and engine sheds; reduction in temporary staff, and in the overtime worked in shops; leaving certain vacancies unfilled; and so on. These measures formed the beginning of the economy campaign which was continued with still greater intensity in the following year.

The increase of nearly half a crore under Depreciation Fund follows the addition to the value of the assets which was made during the previous year; while the large decrease (of $\frac{2}{3}$ crore) in the share of expenses recovered from worked lines is due mainly to the Southern Punjab Railway ceasing, by purchase, from being a worked line.

21. The contribution to General Revenues amounted to 574 lakhs, or 38 lakhs less than in 1929-30.—The statement below shows how this is arrived at :—

(Based on actuals of penultimate year 1928-29.)

	(Figures in thousands of rupees.)	
	Rs.	Rs.
1. 1 per cent on capital of 6,93,73,41 at charge—commercial lines—to end of 1928-29	...	6,93,73
2. (*i*) Receipts (1928-29)—		
Gross traffic receipts—commercial lines . . .	1,02,67,09	
Subsidized companies—share of surplus profits .	38,84	
Interest on depreciation and reserve fund balances and dividends on investments in branch lines and miscellaneous receipts	1,15,71	
TOTAL RECEIPTS .		1,04,21,64

(Figures in thousands of rupees.)

	Rs.	Rs.
(*ii*) Charges (1928-29)—		
Working expenses—commercial lines	64,83,85	
Indian States and railway companies' share of surplus profits	1,59,14	
Land and subsidy	2,91	
Interest—		
On capital at charge—commercial lines . .	26,40,72	
On capital contributed by Indian States and companies	1,50,42	
Miscellaneous railway expenditure . . .	31,66	
Contribution at 1 per cent. on capital at charge—commercial lines	6,93,73	
Total Charges .		1,01,62,43
(*iii*) Surplus		2,59,20
(*iv*) Contribution of one-fifth of surplus		51,84
3. Total contribution from railway revenues 1 *plus* 2 (*iv*) .		7,45,57
Deduct—Loss on strategic lines—		
(*i*) Interest on capital of 33,10,29	1,41,81	
(*ii*) Loss in working	30,19	
		1,72,00
4. Net payment due from railway to general revenues in 1930-31 met by transfer from Railway Reserve Fund .		5,73,57

22. The return during 1930-31 on the total capital at charge of both commercial and strategic lines is 3·70 per cent. or about 0·95 per cent. less than in 1929-30. This compares with the returns during the last 5 years as follows :—

1925-26	5·31
1926-27	5·05
1927-28	5·41
1928-29	5·22
1929-30	4·65
1930-31	3·70

23. The amount appropriated to the depreciation fund by debit to the working expenses of state-owned railways and the amounts drawn from this fund to meet the expenditure incurred on replacements and renewals actually

carried out on those railways during 1929-30 and 1930-31 are given in the statement below :—

(Figures in thousands of rupees.)

Railways.	Credits to Depreciation Fund by debit to Revenue on account of depreciation in 1929-30.	Amount spent on Replacements and Renewals and charged to Depreciation Fund in 1929-30.	Credits to Depreciation Fund by debit to Revenue on account of depreciation in 1930-31.	Amount spent on Replacements and Renewals and charged to Depreciation Fund in 1930-31.
State Lines managed by State.				
North Western	2,58,35	1,41,44	2,68,35	1,80,21
Eastern Bengal	86,36	62,01	91,70	76,50
East Indian	2,21,29	2,46,75	2,29,25	2,18,13
Great Indian Peninsula	1,82,56	1,06,56	1,89,21	1,17,56
Burma	48,28	49,73	51,72	39,38
Aden	11	1,51	...	...
State Lines managed by Companies.				
Bengal Nagpur	1,23,95	2,04,12	1,31,75	1,01,27
Bombay, Baroda and Central India	1,33,15	96,57	1,33,50	97,34
Madras and Southern Mahratta	90,05	94,95	87,55	61,43
South Indian	65,30	88,83	69,62	55,82
Other railways	49,58	43,35	53,88	26,25
Adjustments :— 1. Net result of adjustment of credits on account of released materials and expenditure on non-wasting assets of company-worked railways under Repairs and Maintenance.	...	40,35	...	2,24,90
2. Write back of Renewal and Replacement expenditure of the company's sections of the Bengal and North-Western and Rohilkund and Kumaon Railways for the years 1924-25 to 1929-30.	...	...	...	—59,20
TOTAL	12,58,98	11,76,17	13,06,53	11,39,59

24. An analysis of the financial results of the working of the railways owned by the State is given in the following statement, for the last three years, by each railway :—

(Figures in thousands of rupees.)

Railways.	Year.	(d) Capital at charge.	*Deduct* amount of capital contributed by Companies and Indian States.	Net Government Capital at charge.	Receipts.	Working Expenses including Depreciation.	Net Receipts.	Percentage of Net Receipts on Capital at charge.	Charge against net Revenue Receipts. Payment on account of share of Surplus Profits.	Charge against net Revenue Receipts. Interest Annuity and Sinking Fund charges.	Gain.	Loss.
1	2	3	4	5	6	7	8	9	10	11	12	13
State Lines managed by State.												
North Western	1928-29	1,36,53,60	..	1,36,53,60	15,97,24	12,07,68	3,89,56	2·9	...	5,54,59	...	1,65,03
	1929-30	1,46,46,71	...	1,46,46,71	15,97,70	12,71,84	3,25,86	2·2	...	5,79,44	...	2,53,58
	1930-31	**1,47,84,94**	...	**1,47,84,94**	**16,45,45**	**13,47,21**	**2,98,24**	**2·0**	...	**6,32,13**	...	**3,33,89**
Eastern Bengal	1928-29	47,83,76	...	47,83,76	7,08,98	4,75,12	2,33,86	4·9	...	1,79,98	53,88	...
	1929-30	49,84,72	...	49,84,72	6,73,07	4,70,70	2,02,37	4·0	...	1,86,84	15,53	...
	1930-31	**50,82,12**	...	**50,82,12**	**5,86,00**	**4,65,73**	**1,20,27**	**2·4**	...	**1,99,86**	...	**79,59**
East Indian	1928-29	1,39,75,44	59,96	1,39,15,48	20,41,85	12,28,09	8,13,76	5·9	...	5,70,19	2,43,57	...
	1929-30	1,43,46,77	59,96	1,42,86,81	19,85,18	12,42,14	7,43,04	5·2	...	5,81,73	1,61,31	...
	1930-31	**1,45,62,28**	**59,96**	**1,45,02,32**	**18,24,30**	**12,24,40**	**5,99,90**	**4·1**	...	**6,17,61**	...	**17,71**
Great Indian Peninsula	1928-29	1,11,82,28	...	1,11,82,28	15,44,00	10,17,61	5,26,39	4·7	...	4,18,70	1,07,69	...
	1929-30	1,15,48,13	...	1,15,48,13	14,58,35	10,19,72	4,38,63	3·8	...	4,30,95	7,68	...
	1930-31	**1,17,25,56**	...	**1,17,25,56**	**13,33,36**	**10,45,78**	**2,87,58**	**2·5**	...	**4,59,81**	...	**1,72,23**
Burma	1928-29	32,76,06	...	32,76,06	4,96,38	3,23,05	1,73,33	5·3	45,52	1,23,34	4,47	...
	1929-30	34,75,53	...	34,75,53	4,87,13	3,05,36	1,81,77	5·2	§18,48	1,58,80	4,49	...
	1930-31	**35,31,28**	...	**35,31,28**	**4,27,81**	**3,12,60**	**1,15,21**	**3·3**	...	**1,58,96**	...	**43,75**
State Lines managed by Companies.												
Bengal Nagpur	1928-29	71,61,07	10,53,13	61,07,94	9,14,15	6,31,28	2,82,87	3·9	7,47	3,22,63	...	47,23
	1929-30	74,16,49	10,53,13	63,63,36	9,31,44	6,92,25	2,39,19	3·2	...	3,22,13	...	82,94
	1930-31	**75,75,58**	**10,53,13**	**65,22,45**	**8,17,01**	**6,67,25**	**1,49,76**	**2·0**	...	**3,48,78**	...	**1,99,02**

Bombay, Baroda and Central India	1928-29	70,24,26	2,52,46†	67,71,80	11,96,98	7,48,88	4,48,10	6·3	15,73‡	2,68,23	1,64,14	...
	1929-30	71,63,85	2,49,00†	69,14,85	11,51,68	7,53,94	3,97,74	5·6	17,91‡	2,69,04	1,10,79	...
	1930-31	**72,83,64**	**2,49,00†**	**70,34,64**	**10,89,60**	**7,47,22**	**3,42,38**	**4·7**	**15,00‡**	**2,84,30**	**43,08**	...
Madras and Southern Mahratta	1928-29	54,75,45	10,07,08	44,68,37	9,22,87	4,88,51	4,34,36	7·9	73,22‡	2,23,44	1,37,70	...
	1929-30	56,47,17	10,07,08	46,40,09	8,97,54	4,84,92	4,12,62	7·3	96,94‡	2,26,97	88,71	...
	1930-31	**53,81,44**	**10,07,08**	**43,74,16**	**7,98,20**	**4,75,88**	**3,22,32**	**6·0**	**79,57‡**	**2,41,44**	**1,31**	...
South Indian	1928-29	35,87,53¶	4,15,33‖	31,72,20	5,63,24	3,23,20	2,40,04	6·6	6,27‡	1,52,61	81,16	...
	1929-30	38,55,12	4,95,81‖	33,59,31	6,32,74	3,50,01	2,82,73	7·3	10,34‡	1,59,23	1,13,16	...
	1930-31	**43,76,03**	**4,95,81‖**	**38,80,22**	**5,79,97**	**3,56,94**	**2,23,03**	**5·1**	**14,72‡**	**1,77,25**	**31,06**	...
Other railways	1928-29	37,92,19	4,54,61	33,37,58	4,48,05	2,39,03	2,09,02	5·5	10,93	1,19,25	78,84	...
	1929-30	39,13,61	4,54,60	34,59,01	4,55,46	2,67,40	1,88,06	4·8	8,31	1,30,93	48,82	...
	1930-31	**40,14,88**	**4,54,60**	**35,60,28**	**4,07,96**	**2,68,16**	**1,39,80**	**3·5**	**7,01**	**1,51,41**	...	**18,62**
Suspense	1928-29	...	...	...	...	...	...	...	...	...	...	...
	1929-30	...	...	...	...	...	...	...	...	...	...	...
	1930-31	...	...	...	...	...	...	...	...	...	...	...
Adjustments :— 1. Net result of adjustment of credits on account of released materials and expenditure on non-wasting assets of company-managed railways under Repairs and Maintenance.	1929-30	...	...	...	...	—40,35	40,35	...	...	...	40,35	...
	1930-31		...	...	...	**—2,24,90**	**2,24,90**	...	...	...	**2,24,90**	...
2. Write-back of Renewal and Replacement Expenditure of the Company's Sections of the Bengal and North Western and Rohilkund and Kumaon Railways for the years 1924-25 to 1929-30	**1930-31**	...	...	...	...	**59,20**	**—59,20**	...	...	...	...	**59,20**
Interest on Depreciation and Reserve Fund balances	1928-29	...	...	...	1,06,20	...	1,06,20	...	...	...	1,06,20	...
	1929-30	...	...	...	1,27,66	...	1,27,66	...	...	...	1,27,66	...
	1930-31	...	...	...	**1,32,21**	...	**1,32,21**	...	...	...	**1,32,21**	...
Net Miscellaneous Receipts and Charges not attributable to any one Railway.	1928-29	...	..	...	...	...	...	...	...	...	15,55	...
	1929-30	...	...	...	...	...	...	...	...	...	21,66	...
	1930-31	..	...	...	...	...	...	...	...	...	...	**27,33***
Total (Central)	1928-29	7,39,11,64	32,42,57	7,06,69,07	1,05,39,94	66,82,45	38,57,49	5·2	1,59,14	29,32,96	7,80,94	...
	1929-30	7,69,98,10	33,19,58	7,36,78,52	1,03,97,95	68,17,93	35,80,02	4·6	1,51,98	30,46,06	4,03,64	...
	1930-31	**7,83,17,75**	**33,19,58**	**7,49,98,17**	**96,41,87**	**67,45,47**	**28,96,40**	**3·7**	**1,16,30**	**32,71,55**	...	**5,18,78**

For (*d*), §, ‖, ¶, †, ‡ and * please see foot notes on page 18.

(Figures in thousands of rupees.)

Railways.	Year.	(d) Capital at charge.	*Deduct* amount of capital contributed by Companies and Indian States.	Net Government Capital at charge.	Receipts.	Working Expenses including Depreciation.	Net Receipts.	Percentage of Net Receipts on Capital at charge.	Charge against net Revenue Receipts. Payment on account of share of Surplus Profits.	Charge against net Revenue Receipts. Interest Annuity and Sinking Fund charges.	Gain.	Loss.
1	2	3	4	5	6	7	8	9	10	11	12	13
State Lines managed by Companies—concld.												
Provincial Railways	1928-29	14,61	...	14,61	1,03	5	98	...	...	55	43	...
	1929-30	14,61	...	14,61	(a)2,88	...	2,88	...	...	56	2,32	...
	1930-31	**14,61**	...	**14,61**	**(a)2,21**	...	**2,21**	...	...	**57**	**1,64**	...
Grand Total (Central and Provincial)	1928-29	7,39,26,25	32,42,57	7,06,83,68	1,05,40,97	66,82,50	28,58,47	5·2	1,59,14	29,33,51	7,81,37	...
	1929-30	7,70,12,71	33,19,58	7,36,93,13	1,04,00,83	68,17,93	35,82,90	4·6	1,51,98	30,46,62	4,05,96	...
	1930-31	**7,83,32,36**	**33,19,58**	**7,50,12,78**	**96,44,08**	**67,45,47**	**28,98,61**	**3·7**	**1,16,30**	**32,72,12**	...	**5,17,14**
North Western (Commercial)	1928-29	1,03,43,31	...	1,03,43,31	14,31,69	10,10,18	4,21,51	4·0	...	4,12,77	8,74	...
	1929-30	1,13,07,99	...	1,13,07,99	14,39,21	10,63,78	3,75,43	3·3	...	4,39,35	...	63,92
	1930-31	**1,13,67,34**	...	**1,13,67,34**	**14,97,95**	**11,29,52**	**3,68,43**	**3·2**	...	**4,85,22**	...	**1,16,79**
Non-Commercial (Strategic) (North Western and Aden Railways).	1928-29	33,10,29	...	33,10,29	(c)1,66,65	(c)1,98,60	(c)—31,95	—0·9	...	1,41,82	...	1,73,77
	1929-30	33,38,72	...	33,38,72	(b)1,58,81	(b)2,08,82	(b)—50,01	—1·5	...	1,40,09	...	1,90,10
	1930-31	**34,17,60**	...	**34,17,60**	**1,47,50**	**(e)2,18,58**	**(e)—71,08**	**—2·1**	...	**1,46,91**	...	**2,17,99**

† Includes Capital provided by the Palanpur Durbar.

‡ Includes payments to Durbars—

	1928-29.	1929-30.	1930-31.
Jaipur Durbar	7,65	7,79	6,99
Limbdi „	6	7	12
Palanpur „	21	21	17
Mysore „	25,07	22,85	18,18
Travancore „	19	43	1,00
*Includes recoveries from Travancore Durbar	8	19	...

(a) Represent figures on account of subsidized Companies, etc.

(d) Figures of Capital at charge include sterling liabilities involved in the purchase of Railways converted at 1s. 6d. to the rupee.

§ Represents payment of surplus profits of the Burma Railways for the year 1928-29 which could not be paid in that year as final settlement was not arrived at between the Government of India and the Burma Railways.

‖ Includes capital expenditure on Tinnevelly Quillon (Indian State Section).

¶ Includes Rs. 5·27 representing the outlay on the Suramangalam-Salem Railway and Rs. 69·30 on Tanjore District Board Railway brought on without financial adjustment.

(c) Includes Aden Railway :—
Column 6 excludes 96 for Aden Railway (strategic portion).
„ 7 „ 96 „ „
Net receipt for Aden strategic is "*Nil.*"

(b) Includes Aden Railway :—
Column 6 . . . 33
„ 7 . . . 76
„ 8 . . . —43

(e) Includes Aden Railway :—
Column 7 . . . 89
„ 8 . . . —89

25. Analysis of earnings.—The total earnings of all Indian railways, including those with which the Government of India is not directly concerned, amounted to Rs. 106·57 crores, of which Rs. 64·41 crores or 60·4 per cent. were from goods traffic, Rs. 34·29 crores or 32·3 per cent. from passenger traffic and Rs. 7·87 crores or 7·3 per cent. from parcels, luggage and miscellaneous items.

26. *Passenger earnings.*—Passenger earnings showed a decrease of 11·1 per cent. from Rs. 38·58 to Rs. 34·29 crores. The following table shows the numbers of and earnings from passengers separately for each class for the 4 years previous to the war and for the 5 latest years. Graphs are also inserted showing the numbers of passengers carried and of passenger miles by classes from the beginning of 1923-24:—

Year.	Number of passengers carried (in thousands).					Earnings from passengers (in thousands of rupees).				
	1st Class.	2nd Class.	Inter. Class.	3rd Class.	Season and Vendor's tickets.	1st Class.	2nd Class.	Inter-Class.	3rd Class.	Season and Vendor's tickets.
1910	685	2,784	10,702	315,839	24,341	58,82	77,23	94,99	14,65,16	15,85
1911	703	2,947	11,409	331,055	25,687	66,38	83,83	1,08,88	15,73,15	16,85
1912	700	3,030	10,508	356,789	26,810	62,90	83,31	91,37	17,01,35	17,55
1913-14	715	3,253	12,000	390,412	30,114	68,94	88,70	1,03,48	18,37,03	19,36
1926-27	1,012	10,006	14,945	578,409	†	1,17,78	1,88,31	1,61,79	33,44,63	†
1927-28	980	9,963	17,351	594,821	†	1,13,71	1,95,67	1,69,33	34,39,39	†
1928-29	912	9,585	17,870	591,679	†	1,12,25	1,91,89	1,66,43	33,53,56	†
1929-30	804	9,125	17,900	606,468	†	1,04,45	1,83,56	1,58,96	34,11,36	†
1930-31	**670**	**8,089**	**16,189**	**550,879**	†	**94,06**	**1,70,20**	**1,41,34**	**30,24,15**	†

† The number of season and vendor's tickets and their earnings included under the respective classes; the former at the rate of 50 single journeys per month.

NOTE.—In pre-war reports the sum of the numbers of passengers carried on each separate railway was shown as the total number of passengers carried on all railways. Passengers travelling over two or more railways were thus counted as two or more passengers. The actual number of passengers carried on all railways is in fact the same as the number of passengers originating and this figure has been adopted for 'number of passengers carried' in the reports from 1923-24 onwards. As the number of passengers originating is not available prior to 1923-24 the figures of pre-war years have been modified.

27. During 1930-31, 59 million less passengers were carried on class I Railways than in 1929-30 and passenger earnings decreased by Rs. 4 crores. The following statement shows how these decreases were distributed over the various railway administrations:—

Name of Railway.	Variations in the No. of passengers carried as compared with 1929-30.	Variations in Earnings as compared with 1929-30.
Assam Bengal	– 1,883,100	– 9,77,000
Bengal and North Western	– 3,284,500	– 28,75,000
Bengal Nagpur	– 3,061,500	– 29,97,000
Bombay, Baroda and Central India	– 4,942,300	– 31,50,000
Burma	– 4,261,600	– 22,60,000
Eastern Bengal	– 8,784,000	– 50,29,000
East Indian	– 5,440,600	– 62,93,000
Great Indian Peninsula	– 8,414,600	– 66,10,000
Jodhpur	– 25,300	– 95,000
Madras and Southern Mahratta	– 5,956,200	– 36,53,000
His Exalted Highness the Nizam's State	– 375,800	– 3,97,000
North Western	– 11,788,800	– 52,98,000
Rohilkund and Kumaon	+ 587,600	+ 50,000
South Indian	– 1,270,400	– 17,41,000
TOTAL	– 58,901,100	– 4,13,25,000

28. Passengers travelling without tickets.—In last year's report mention was made of the Railway Board's decision to appoint a small committee to enquire into the crew system on the East Indian Railway and report whether the expenditure on it was justified by the results. The committee commenced their enquiry in May, 1930, and its recommendations were under consideration at the close of the year.

Special steps which are being taken with a view to prevent illicit travelling are indicated by the measures which have been adopted during the year on the following railways:—

Assam Bengal Railway.—The number of travelling ticket examiners was raised from 42 to 46 at a total cost of Rs. 76,123, compared with Rs. 69,825 in the previous year. Persons detected travelling without tickets, or irregularly, fell from 70,522 to 62,148, and the fares collected by ticket examiners, including freight on unbooked luggage, from Rs. 74,245 to Rs. 72,499.

Great Indian Peninsula Railway.—The crew system of checking passengers' tickets continued to be used on certain sections, the system aiming at the prevention, rather than the detection of illicit travel.

Madras and Southern Mahratta Railway.—The practice adopted on this railway is to utilise travelling ticket examiners to check trains on particular sections. During the year the situation in and around Madras called for special attention and temporary staff was appointed. Statistics record an increase of 147,601 in the number of passengers and of Rs. 72,528 in the earnings in the Madras area during the eleven months ending March, 1931, as compared with the corresponding period of the previous year. The situation was found to have improved considerably in the Madras area since the institution of the special check. Numerous cases of misuse of season tickets and free passes were detected and the offenders prosecuted and convictions secured.

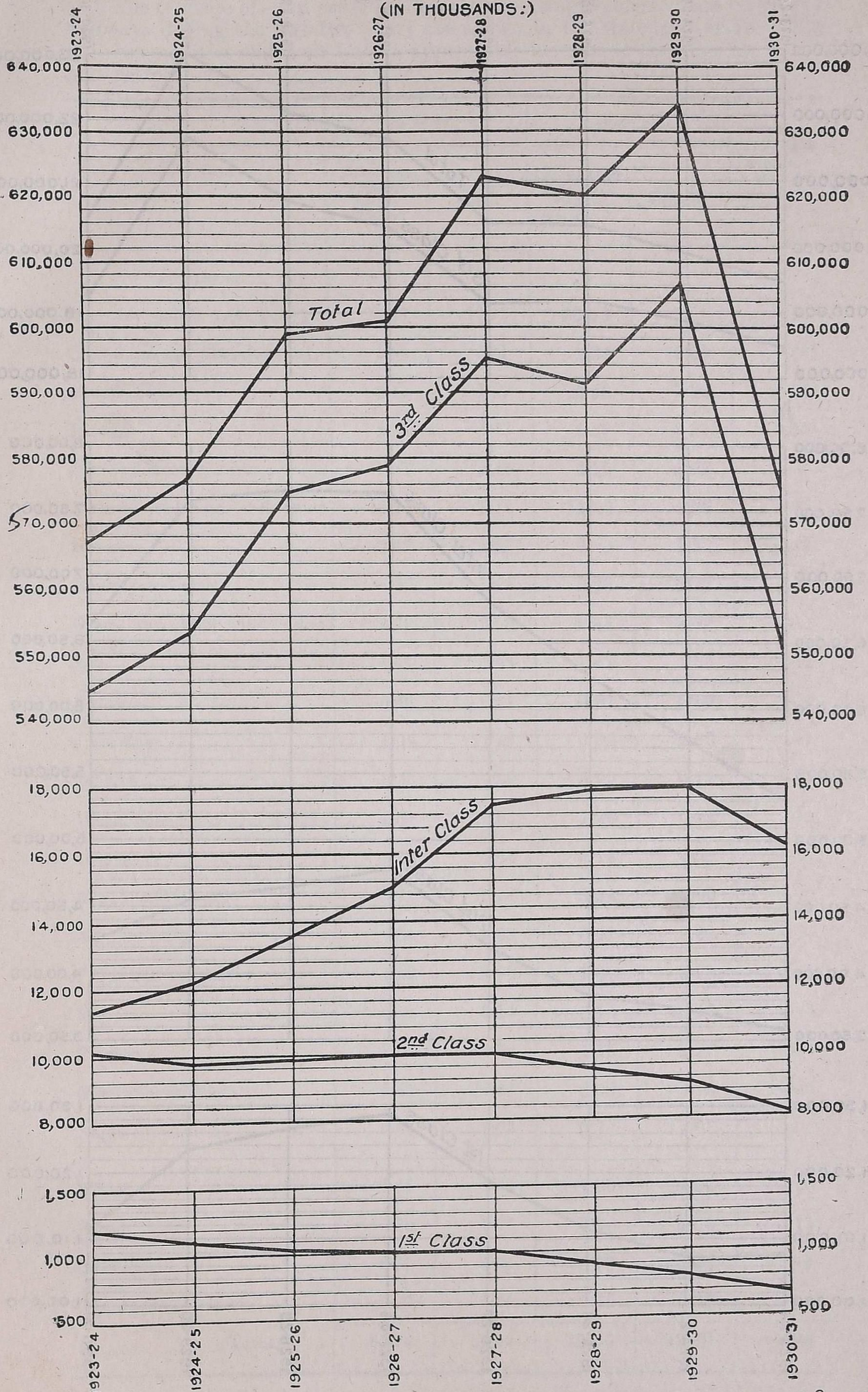
North Western Railway.—The following figures indicate how the matter of illicit travelling continues to be dealt with on this railway:—

	1929-30.	1930-31.
1. Number of staff employed (average per month)	215	210
2. Cost of staff shown in (1) above .	Rs.4,18,235	Rs. 4,21,095
3. Number of passengers detected travelling irregularly	535,375	622,032
4. Number of persons prosecuted under sections 112 and 113 of the Railways Act	14,469½	13,877
5. Number convicted	3,732	5,531
6. Total amount realized from passengers travelling irregularly . .	Rs.5,33,705	Rs. 5,74,985

South Indian Railway.—No material change was made during the year in the system of ticket checking previously in vogue. Special batches of five or six men were, however, posted on each section to supplement the work of one man allotted for each train throughout its run. The number of cases detected of passengers travelling without tickets increased, indicating that special measures for the prevention of fraudulent travelling are still required, and this is receiving the attention of the Administration.

29. Goods earnings.—Earnings from goods traffic on all railways decreased by Rs. 4·40 crores chiefly under fuel (coal) for the public and railways, cotton raw and manufactured, metallic ores, rice and iron and steel wrought.

NUMBER OF PASSENGERS CARRIED ON INDIAN RAILWAYS (IN THOUSANDS:)



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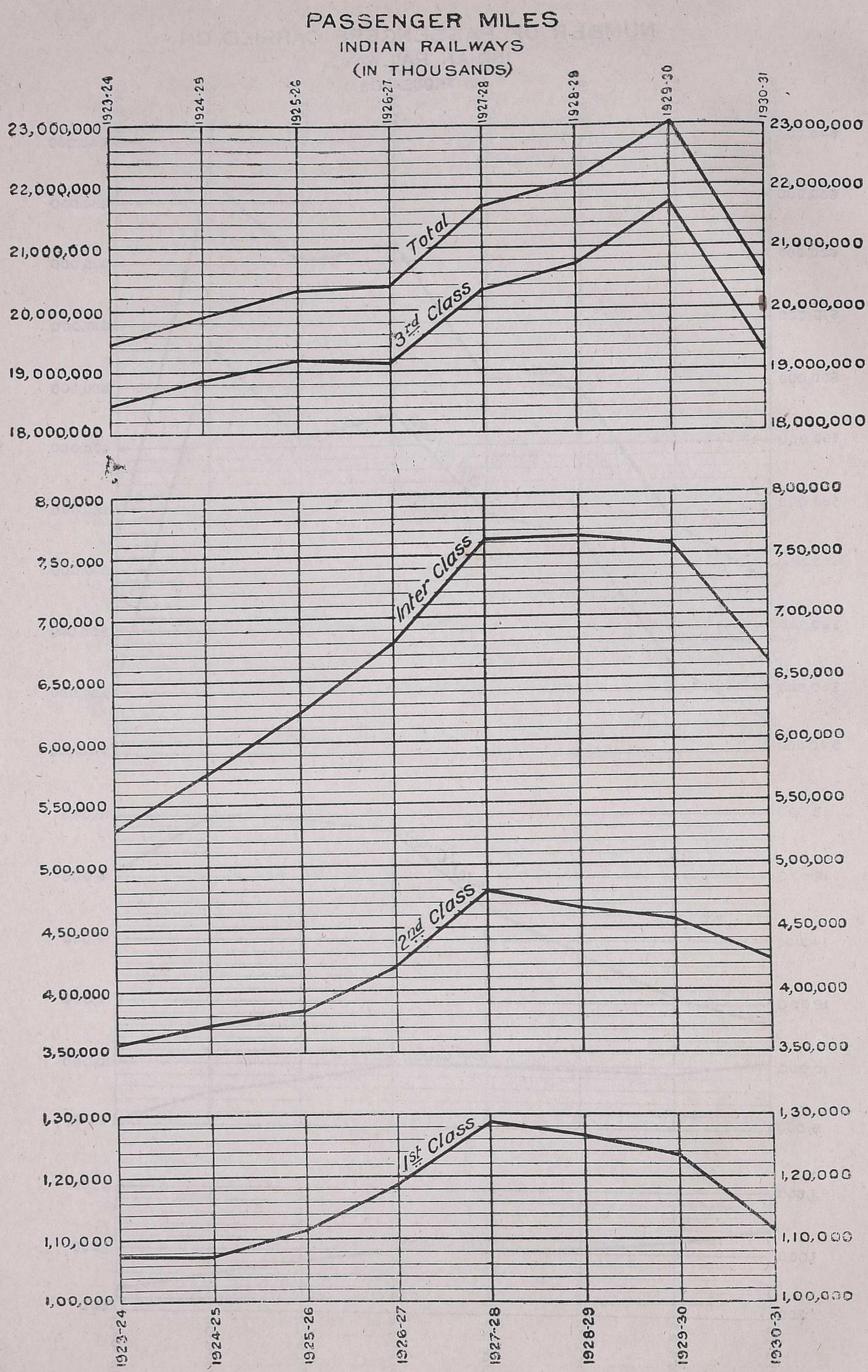

PASSENGER MILES
INDIAN RAILWAYS
(IN THOUSANDS)
1923-24
1924-25
1925-26
1926-27
1927-28
1928-29
1929-30
1930-31
23,000,000
22,000,000
21,000,000
20,000,000
19,000,000
18,000,000
Total
3rd Class
8,00,000
7,50,000
7,00,000
6,50,000
6,00,000
5,50,000
5,00,000
4,50,000
4,00,000
3,50,000
Inter Class
2nd Class
1,30,000
1,20,000
1,10,000
1,00,000
1st Class

The tonnage of, and earnings from, the principal commodities on class I railways during the last two years are shown in the statement below. The only commodities which showed an appreciable increase in earnings are wheat and petrol.

Commodity.	1929-30.		1930-31.		Decrease — Increase + in Earnings (lakhs).
	No. of tons originating (in millions).	Rs. (in crores).	No. of tons originating (in millions).	Rs. (in crores).	
Decreases.					
Fuel for public and Foreign Railways.	21·46	10·22	20·03	9·56	—66
Cotton raw and manufactured.	1·83	6·91	1·68	6·31	—60
Metallic ores . . .	3·41	1·47	2·56	0·93	—54
Rice	4·55	4·17	4·17	3·67	—50
Iron and steel wrought . .	1·31	2·46	1·12	2·07	—39
Materials and stores on Revenue account.	15·94	3·12	14·29	2·88	—24
Kerosene	0·92	1·69	0·85	1·50	—19
Railway materials . .	6·38	0·94	6·35	0·77	—17
Gram and Pulse and other grains.	2·75	3·53	2·65	3·42	—11
Salt	1·47	1·96	1·42	1·85	—11
Fodder	0·96	0·61	0·81	0·50	—11
Jute, Raw	1·04	1·47	0·99	1·36	—11
Tobacco	0·33	0·82	0·29	0·71	—11
Wood, unwrought . . .	1·35	0·85	1·20	0·75	—10
Live stock	0·20	0·63	0·18	0·53	—10
Marble and stone . . .	3·45	0·98	3·29	0·89	—9
Military traffic . . .	0·34	0·38	0·31	0·32	—6
Fruits and vegetables . .	1·28	1·08	1·27	1·03	—5
Manures	0·18	0·14	0·14	0·10	—4
Provisions	1·17	2·89	1·15	2·86	—3
Other commodities . .	9·44	10·64	8·39	9·75	—89
Sugar	0·82	2·03	0·77	2·03	...
Increases.					
Wheat	1·63	2·03	1·96	2·69	+66
Petrol	0·26	0·77	0·28	0·93	+16
Oil-seeds	2·79	3·95	2·76	4·01	+6
Gur, Jagree, Molasses . .	0·70	0·94	0·75	0·98	+4
Total .	85·96	66·68	79·66	62·40	—428

30. Alterations in rates and fares.—No considerable alterations in rates and fares were made during the year, but mention may be made of the following :—

Reduction in rate for wheat to Karachi.—At the commencement of the cold weather of 1930 the existence in India of a large surplus of wheat, estimated at not less than a million tons, which even at the low prices then prevailing was unable to find a market either within or outside India, led the North Western and East Indian Railways to bring into force from the 18th November 1930 to the 28th February 1931 certain substantial reductions in the rates for wheat to Karachi. Expectations as to a large movement of wheat to Karachi for export were not, however, realised as Indian wheat for export could not find a market abroad.

Minor enhancements of rates and fares.—Consequent on the serious drop in revenue which became apparent towards the end of 1930, certain adjustments in rates and fares on the principal railways were made which, while tending to result in increased revenue, would not, it was anticipated, affect the free movement of traffic.

31. Stores Balances.—The table below compares the figures of stores balances since 1921-22 :—

(In thousands.)

Railways.	1921-22.	1922-23.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	**1930-31.**
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	**Rs.**
Assam Bengal	24,81	31,48	18,38	12,30	9,49	12,59	13,01	14,91	18,04	**22,05**
Bengal Nagpur	1,40,26	1,61,88	1,48,09	1,49,44	1,27,64	1,17,17	1,07,87	1,32,69	1,36,28	**1,21,17**
Bombay, Baroda and Central India.	2,76,83	2,72,43	2,33,25	1,77,39	1,62,48	1,46,28	1,67,17	1,62,35	1,60,82	**1,64,54**
Burma	66,62	84,85	98,71	84,62	75,00	44,82	59,41	61,25	55,25	**52,55**
East Indian (including Oudh and Rohilkhand).	3,92,50	4,39,19	4,10,66	3,14,19	2,81,46	2,48,17	2,98,92	3,14,89	3,03,84	**2,48,39**
Eastern Bengal	2,51,63	1,76,20	1,57,85	1,21,99	1,12,27	84,07	84,39	79,53	77,21	**76,33**
Great Indian Peninsula.	4,66,49	3,88,35	3,97,77	2,89,49	2,38,67	2,23,13	2,53,49	2,41,88	2,62,01	**2,51,73**
Madras and Southern Mahratta.	1,50,52	1,66,09	1,50,91	1,02,86	84,31	76,75	93,91	83,29	82,60	**79,29**
North Western*	3,94,12	3,92,69	3,79,78	2,73,36	2,44,34	2,86,41	3,91,59	3,69,62	3,47,89	**2,59,81**
South Indian	1,14,45	1,38,66	99,02	77,04	1,13,30	1,06,60	1,23,76	1,14,51	1,05,72	**93,76**
Other Railways*	31,08	41,01	42,63	42,59	36,87	39,33	46,55	43,75	52,69	**57,14**
Strategic lines*	57,76	57,68	72,10	63,38	82,62	83,53	92,34	90,17	92,45	**93,76**
TOTAL	23,67,07	23,50,51	22,09,15	17,08,65	15,68,45	14,68,85	17,32,41	17,08,84	16,94,80	**15,20,52**

* Figures revised consequent on showing strategic lines separately.

32. Compensation claims for goods.—The table below shows for each class I railway the amounts paid on account of compensation for goods lost or damaged during the last seven years. It will be seen that the figure for 1930-31 is substantially lower as compared with other years. In previous reports attention has been drawn to the marked improvement under this head since the year 1922-23 when the amount of claims paid exceeded Rs. 120 lakhs.

*Claims for goods lost or damaged paid by Class I Railways (excluding Jodhpur Railway) during 1924-25 to 1930-31.**

Railways.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.	Percentage to Goods Earnings. 1929-30.	1930-31.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Assam Bengal .	17,587	21,841	20,979	18,006	20,973	19,096	15,976	0·17	0·14
Bengal and North-Western.	80,680	92,932	85,369	59,875	45,387	56,914	26,865	0·32	0·16
Bengal Nagpur	2,01,889	80,093	54,988	65,248	1,02,726	77,437	60,128	0·12	0·11
Bombay, Baroda and Central India.	6,03,064	4,40,465	2,60,213	1,57,447	1,21,175	1,07,749	96,011	0·15	0·14
Burma . .	33,662	30,982	41,295	42,791	34,696	18,828	22,129	0·06	0·08
Eastern Bengal	1,68,020	1,86,736	1,83,822	1,71,266	1,53,676	1,08,306	83,409	0·30	0·25
East Indian .	30,61,451	11,73,008	3,82,219	2,36,368	2,27,600	1,75,501	1,10,596	0·14	0·09
Great Indian Peninsula.	6,63,609	3,41,130	1,92,400	1,18,333	1,45,133	1,11,392	1,15,364	0·12	0·13
Madras and Southern Mahratta.	85,548	91,018	84,859	80,517	95,330	1,28,478	70,612	0·23	0·15
His Exalted Highness the Nizam's State.	17,022	18,219	11,211	11,270	11,443	23,075	16,206	0·16	0·11
North Western	6,84,162	3,89,771	1,55,097	—36,383	99,446	78,321	1,26,939	0·08	0·13
Rohilkund and Kumaon.	21,860	17,088	4,318	7,347	7,204	5,775	2,611	0·17	0·07
South Indian .	32,045	48,536	45,169	17,691	28,350	12,992	18,826	0·04	0·07
Total .	56,70,499	29,31,819	15,21,939	9,49,776	10,93,139	9,23,864	7,65,672	0·14	0·12

*These figures exclude the amount of credits afforded to home line departments for the loss of their goods.

CHAPTER III.

NEW CONSTRUCTION AND ENGINEERING WORKS.

33. Capital Expenditure.—At the end of March, 1931, the total capital at charge on all railways, including those under construction, amounted to Rs. 869·81 crores, of which Rs. 783·33 crores was capital at charge on State-owned Railways inclusive of premia paid in the purchase of Companies' lines. The remainder, Rs. 86·48 crores, represented capital raised by Indian States, Companies and District Boards.

The capital at charge of State-owned Railways is composed as follows:—

	£
Liability and debt incurred in purchase of Railways .	150,106,630
Less liability and debt cancelled by the operation of Annuities and Sinking Funds	– 29,275,034
Net amount outstanding	120,831,596*
	Rs. (omitting 000)
Direct expenditure by Government	6,22,07,47
The above figure converted at Rs. $13\frac{1}{3}$ = £1 . . .	1,61,10,28
Total .	7,83,17,75
Add Provincial Railways expenditure	14,61
Grand Total .	7,83,32,36

By far the greater portion of this amount, namely, Rs. 7,49,98,17,000, is Government Capital and only 1/23rd or Rs. 33,19,58,000 is owned by Companies. These figures include Rs. 34·18 crores on account of capital expenditure to the end of March, 1931, on strategic lines.

34. The total capital outlay on all railways during 1930-31 was Rs. 14·65 crores, excluding certain adjustments as a result of the purchase of the Nizam's Guaranteed State Railways by His Exalted Highness the Nizam's Government, of which Rs. 13·21 crores were spent on State-owned Railways. The following statement shows how this outlay of Rs. 13·21 crores was distributed between open line works, rolling stock and new lines, similar figures being given for the previous four years and for 1913-14.

Year.	Open Lines.			New lines.	Grand Total.
	Works including Stores and general charges.	Rolling-stock.	Total.		
	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.
1913-14	9·30	7·31	16·61	1·86	18·47
1926-27	16·74	4·13	20·87	6·27	27·14
1927-28	17·21	5·37	22·58	9·86	32·44
1928-29	12·47	3·98	16·45	8·96	25·41
1929-30	18·12	5·55	23·67	6·51	30·18
1930-31	**5·29**	**3·81**	**9·10**	**4·11**	**13·21**

* £118,256,596 converted at the rate of £1=Rs. 13-1/3rd and £2,575,000 representing the Great Indian Peninsula Railway Company's share capital paid off during 1925-26 converted at the average rate of exchange.

Dhorabhavi Bridge, Guntakal-Bezwada Section—250′ span strengthened by underhung bowstring.

35. The distribution of the capital outlay in 1930-31 over the different State-owned lines is shown in the summary below :—

Railways.	Open Lines.			New lines.	Grand Total.
	Works, etc.	Rolling-stock.	Total.		
	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.
Bengal Nagpur	0·14	0·31	0·45	1·14	1·59
Bombay, Baroda and Central India	1·06	0·31	1·37	—0·17	1·20
Eastern Bengal	0·36	0·36	0·72	0·26	0·98
East Indian	0·74	0·40	1·14	1·12	2·26
Great Indian Peninsula	0·90	0·64	1·54	0·14	1·68
Madras and Southern Mahratta	0·49	0·32	0·81	0·01	0·82
North Western	0·19	0·54	0·73	0·65	1·38
South Indian	0·75	0·48	1·23	0·50	1·73
Other Railways	0·66	0·45	1·11	0·46	1·57
Total	5·29	3·81	9·10	4·11	13·21

36. Lines opened during 1930-31.—573·09 miles of railways were opened to public traffic during the year and consisted of :—

306·13 miles on the 5′-6″ gauge.

266·96 miles on the 3′-3⅜″ gauge.

37. Details regarding the sections opened are given below :—

Name of line.	Gauge.	Mileage.	Owner.	Working agency.	Date of opening.
Jemadipeta to Rayaghada	5′ 6″	9·47	State	Bengal Nagpur Railway.	12th April, 1930.
Harishankar Road to Titilagarh	5′ 6″	34·81	State	Do.	30th September, 1930.
Manendragarh to Chirmiri	5′ 6″	13·82	State	Do.	23rd January, 1931.
Rayaghada to Tharuvalli	5′ 6″	11·79	State	Do.	31st March, 1931.
Vasad to Katana	5′ 6″	26·61	State	Bombay, Baroda and Central India Railway.	1st September, 1930.
Unao to Madhoganj	5′ 6″	47·93	State	East Indian Railway	21st December, 1930.
Utratia-Hydergarh	5′ 6″	27·75	State	Do.	31st March, 1931.
Korukkupettai-Veyasarpaudy	5′ 6″	1·12	State	Madras and Southern Mahratta Railway.	16th February, 1931.
Mahrabpur to Padidan	5′ 6″	44·63	State	North Western Railway.	20th May, 1930.
Fort Abbas to Baghdad	5′ 6″	88·20	Indian State Line	Do.	4th February, 1931.
Dhing Bazar to Mairabari	3′ 3⅜″	3·33	State	Assam Bengal Railway	20th April, 1930.
Mashrak Thawe Extension	3′ 3⅜″	39·32	State	Bengal and North-Western Railway.	12th January, 1931.
Nyaungdo to Kyaukpadaung	3′ 3⅜″	10·97	State	Burma Railways	17th July, 1930.
Ledarmer to Raniwara	3′ 3⅜″	25·87	Jodhpur State	Jodhpur Railway	1st May, 1930, 1st March, 1931.
Pudukottai-Manamadurai	3′ 3⅜″	60·26	State	South Indian Railway.	1st July, 1930.
Salem-Chinnasalem Section	3′ 3⅜″	54·80	State	Do.	3rd February, 1931.
Tahsil Bhadra-Ludhi Junction	3′ 3⅜″	36·58	Bikaner State	Bikaner State Railway.	13th November, 1930.
Shimoga Town-Ragihosahalli	3′ 3⅜″	17·62	Mysore State	Mysore State Railway.	12th April, 1930.
Mavli to Kankroli	3′ 3⅜″	18·21	Indian State Line	Udaipur Chitorgarh Railway.	1st November, 1930.

38. Lines sanctioned in 1930-31.—During the year under review sanction was accorded to the construction of new lines totalling 168·00 miles.

	Miles.
5′ 6″	113·12
$3' 3\frac{3}{8}''$	54·88

39. Lines under construction on 31st March, 1931.—At the end of the financial year 1930-31 a total of 809·85 miles of new lines was under active construction distributed as follows:—

	Miles.
5′ 6″	488·06
$3' 3\frac{3}{8}''$	201·43
2′ 6″ and 2′ 0″	120·36

40. The lines under construction are given in the table below which also shows the construction agencies and the progress reached:—

Name of line.	Gauge.	Mileage actually under construction.	Working agency.	Progress of work. Proportion completed.
*Birmitrapur-Guttitanagar . .	5′ 6″	8·29	Bengal Nagpur Railway.	0·39 Work suspended unitl 1932.
Raipur-Vizianagram . . .	5′ 6″	74·01		0·97 on District No. 1. 0·90 " 2. 0·72 " 3. 1·00 " 4.
*Contai Road-Contai . . .	5′ 6″	33·95	Do. .	0·00
Kalukhali-Bhatiapara . .	5′ 6″	53·05	Eastern Bengal Railway.	0·45
*Dacca-Aricha	5′ 6″	64·00		0·01
Calcutta Chord . . .	5′ 6″	11·77	East Indian Railway.	0·90
Lucknow-Zafarabad . . .	5′ 6″	108·71		0·80
*Kartal to-Kamasin . . .	5′ 6″	58·66	Great Indian Peninsula Railway.	0·10
*Khamgaon-Chikli . . .	5′ 6″	38·50		0·01
*Belapur-Sheogaon . . .	5′ 6″	45·50		0·35
*Amraoti-Narkhed . . .	5′ 6″	79·00		0·04
*Bhadrachalam Road to Ramaram	5′ 6″	1·99	His Exalted Highness the Nizam's State Railway.	...
Mohamadabad Bidar to Purli .	5′ 6″	111·04		0·00
*Qadian-Beas	5′ 6″	29·58	North Western Railway.	0·33
*Lyallpur-Chananwala . .	5′ 6″	109·84		0·07 on Risalewala-Tandlianwala Section. 0·01 on Tandlianwala-Chananwala Section.
Tharushah-Sakrand . . .	5′ 6″	65·73		0·39
Nawabshah-Tando Adam . .	5′ 6″	54·31		0·87
Chiniot-Chhinikhichi . .	5′ 6″	3·44		0·75
Shahpur City-Khushab . .	5′ 6″	6·00		0·98
Sholashahar (Chittagong)-Dohazari	$3' 3\frac{3}{8}''$	25·00	Assam-Bengal Railway.	0·82
*Halvad-Malia	$3' 3\frac{3}{8}''$	26·00	Bombay, Baroda and Central India.	0·00 Construction not started; held in abeyance.
*Khalipur-Khakhal . . .	$3' 3\frac{3}{8}''$	17·22		0·00 Do.
*Wagrod-Khareda . . .	$3' 3\frac{3}{8}''$	12·44		0·00 Do.
*Vijapur-Ransipur . . .	$3' 3\frac{3}{8}''$	14·01		0·00 Do.
*Taungdwingyi-Patango . .	$3' 3\frac{3}{8}''$	41·00	Burma Railways .	0·40
*Trans-Irrawaddy Section of Minbu and Pakokku District Railways. (Malun to end.)	$3' 3\frac{3}{8}''$	270·87		0·01
Irrawaddy Bridge at Sagaing .	$3' 3\frac{3}{8}''$	4·86		0·41
Tangla-Belsiri	$3' 3\frac{3}{8}''$	52·50	Eastern Bengal Railway.	0·15

* On these lines either construction has not been started or work has been held in abeyance.

Name of line.	Gauge.	Mileage actually under construction.	Working agency.	Progress of work. Proportion completed.
*Phalodi-Pokaran	3′ 3⅜″	33·00	Jodhpur Railway	0·00
*Bilara-Jaitarn	3′ 3⅜″	16·00	Jodhpur Railway	0·00
Pollachi-Palghat	3′ 3⅜″	33·45	South Indian Railway.	0·72
Chinnasalem-Vriddhachalam	3′ 3⅜″	27·73	South Indian Railway.	0·75
*Chakia-Thambanur	3′ 3⅜″	3·43	South Indian Railway.	0·60
†Bengal Dooars Extension	3′ 3⅜″	8·41	...	...
*Sidsar-Patan	3′ 3⅜″	7·85	Gondal	0·00
*Khambaliya-Saliya	3′ 3⅜″	8·96	Jamnagar-Dwarka	...
*Prachi Road-Una	3′ 3⅜″	29·58	Junagad Durbar	0·37
*Talala-Dhari	3′ 3⅜″	47·27	Junagad Durbar	0·00
Raghashalli-Araslu	3′ 3⅜″	7·66	Mysore	0·80
*Chamrajanagar-Hardanhali	3′ 3⅜″	4·83	Mysore	0·05 on Nanjangad Hardanhali Section.
Kankroli-Kambli	3′ 3⅜″	46·80	Mewar Durbar	0·75
*Kambli-Sursinghjika Gudha	3′ 3⅜″	10·00	Mewar Durbar	0·00
Varanashi-Gunnupur	2′ 6″	15·63	Parlakimedi State	0·97
Devgad Baria Limbdia	2′ 6″	19·00	Baria Durbar	0·00
Dharwa-Pusad	2′ 6″	42·80	Great Indian Peninsula Railway.	0·85
*Mahuva-Anaval	2′ 6″	17·91	Baroda State	0·00
*Umerpada-Bardipada	2′ 6″	9·98	Baroda State	..
*Navsari-Kamraj	2′ 6″	26·25	Baroda State	...
*Barout-Murat	2′ 6″	30·00	Shahdara Saharanpur Light Railway.	...
Warsamedi-Bachau	2′ 6″	19·86	Cutch State	1·00
*Dholpur-Rajkhera	2′ 6″	22·34	Dholpur State	0·16
Ujjain to Agra	2′ 0″	42·07	Gwalior State	0·67
*Tirupati-Tiruchanur	2′ 0″	3·00	Tirupati-Tiruchanur Railway Company.	...

* On these lines either construction has not been started or work has been held in abeyance.
† Completed but not in use.

41. The following is a brief account of the more important lines the construction of which was sanctioned or which were under construction during the year :—

Kalukhali-Bhateapara Railway.—The construction of this line by the Eastern Bengal Railway was sanctioned in January, 1928. It is a broad gauge line about 48 miles long with a branch from Madukhali to Kamarkhali 7 miles long, making a total of 52 miles. Progress has been made and it is hoped that the line will be opened for traffic in December, 1931. It is possible that the line may be extended to Barisal at a later date.

Darwha-Pusad Railway.—The Darwha-Pusad Railway is a 2′-6″ gauge branch line, about 43 miles in length, which will connect Darwha Motibagh, a station on the Central Provinces Railways, with Pusad, the headquarters of a taluka in the Yeotmal District. The construction of the line by the Great Indian Peninsula Railway which is intended to serve an area of some 2,500 square miles with 750 villages between Darwha and Pusad was sanctioned by the Railway Board in September, 1927, on the recommendation of the Central Provinces Government. Construction is in progress and the line is expected to be opened in October, 1931.

Shri Bhawani Danta State Railway—from Taranga Hill Station to Ambaji Mata.—The construction of this line, a length of 35 miles on the metre gauge, as an extension of the Gaekwar's Mehsana-Taranga Hill Railway was sanctioned in September, 1930, at an estimated cost of Rs. 28,79,583. The line lies for the most part in the Danta State, while a very short length, about a mile, passes through the Baroda and Palanpur States. It will open up the fertile portion of the Danta State and will carry a heavy pilgrim traffic to the shrines at Ambaji Mata. It is financed and being constructed solely by the Danta Durbar and after construction the Durbar will hand it over for working to the Bombay, Baroda and Central India Railway on terms which have been agreed upon. The Government of India have no financial interest in the Railway.

Bidar to Purli.—The construction of this branch, a length of 113·12 miles on the broad gauge, was sanctioned in December, 1930, at an estimated cost of Rs. 95,75,696. The line lies entirely in Hyderabad territory and the object of the line is primarily to serve the fertile area between Bidar and Purli *viâ* Chakur and carry traffic which at present is being carted over long distances to and from the Great Indian Peninsula Railway, the Barsi Light Railway and the Hyderabad Godavari Valley Railway. The line is financed and being constructed and worked by His Exalted Highness the Nizam's Government and the Government of India have no financial interest in it.

Pollachi-Palghat Railway.—33·44 miles. Sanction to the construction by the South Indian Railway of this branch on the metre gauge was mentioned in the report for 1928-29. The line is intended to serve a well cultivated area rich in rice, groundnuts and cotton and was expected to be ready for opening by the end of 1930. Considerable difficulties were, however, experienced during construction due to the unusually hard nature of the soil met with and to the presence of a malarial belt about 10 miles wide in which it is extremely difficult to retain labour. Progress on the line has, therefore, been slow and it is expected that at least another six months will elapse before it is ready for opening.

Chiniot Khushab Railway.—The Chiniot Khushab Railway was mentioned in the Railway Board's report for 1929-30 as being under construction by the North Western Railway. The Shahpur-Khushab Section, a distance of 6 miles, is now practically ready for opening. This section includes a bridge over the river Jhelum consisting of 15 spans of 159 feet. The bridge has a 10 feet roadway cantilevered out on either side of the main girders for up and down traffic. The whole line has now been opened for public traffic excepting a small section of 3·43 miles which includes a bridge over the Chenab river. This section is expected to be opened in March, 1932.

Sind Left Bank Feeders.—This line on the North Western Railway was mentioned in the Railway Board's report for 1929-30. The first section, Mahrabpur-Padidan, has already been opened for public traffic. Construction is now in progress on the other two sections, *viz.*, Nawabshah-Tando Adam and Tharushah-Sakrand, about 120 miles in length. It is expected to open both sections in December, 1931.

42. Important lines opened during 1930-31.—Of the lines opened during the year the following may be specially mentioned :—

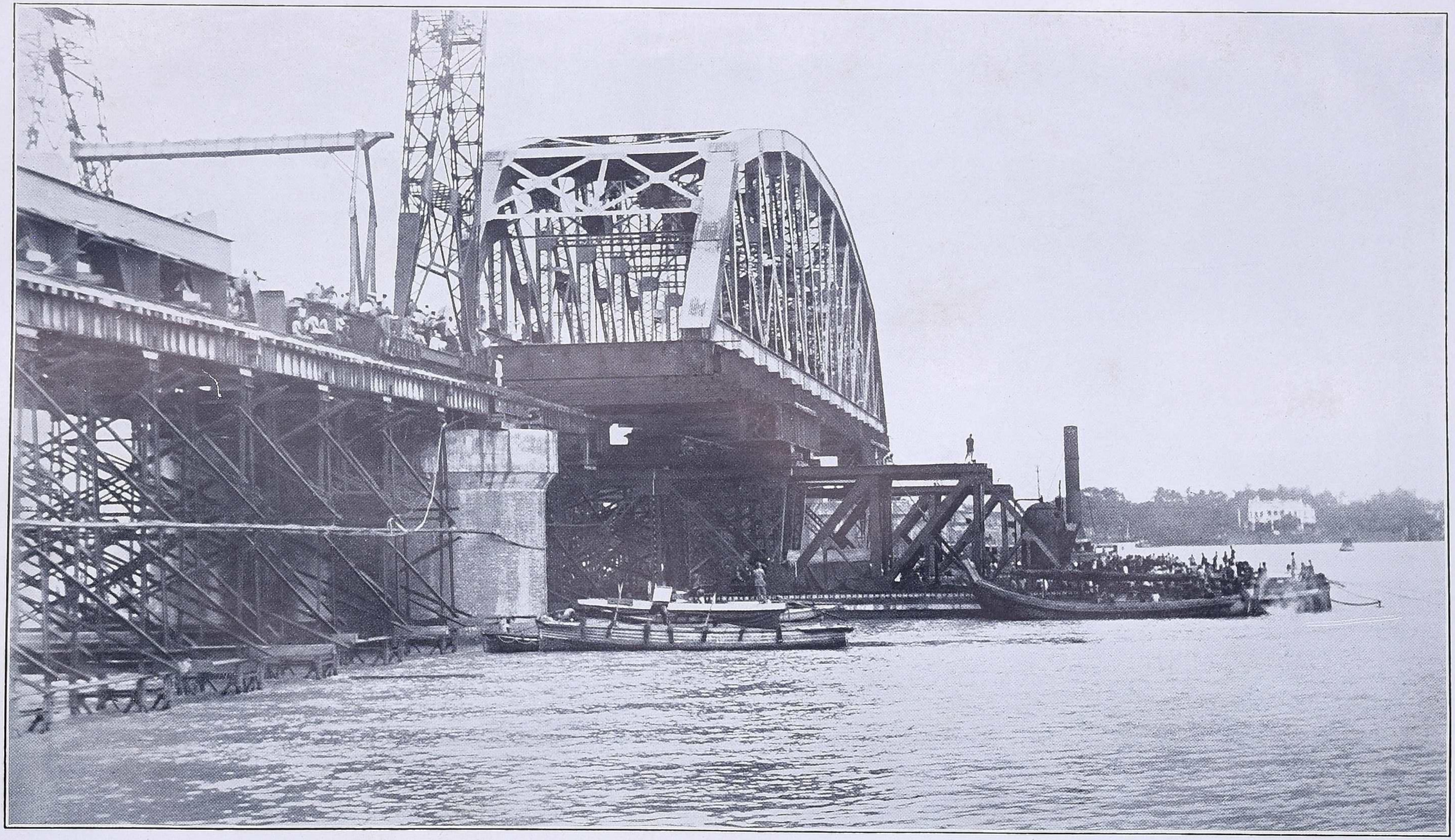
Raipur-Vizianagram Railway.—The following sections of the Raipur-Vizianagram Railway (Bengal Nagpur Railway) which is intended to provide a shorter route between Central India and the East Coast, and Vizagapatam Harbour were opened for traffic during the year under review :—

(*i*) Jemadipeta-Rayaghada (9·45 miles).

(*ii*) Harishanker Road-Titlagarh (34·80 miles).

(*iii*) Rayaghada-Theruvali (11·79 miles).

The country traversed by (*i*) rises steadily through undulating waste land with patches of cultivation, while that traversed by (*ii*) and (*iii*) is hilly and lies within the Patna and Kalahandi States.



Bally Bridge—350′ span being floated from erection bay.

Mashrak-Thawe Extension.—This extension 39·28 miles in length sanctioned in June, 1928, has been completed by the Bengal and North-Western Railway and was opened on the 12th January, 1931. It will develop a thickly populated and fertile agricultural area. It gives access to the Sub-divisional headquarters at Gopalganj, of the Saran District, Bihar.

Vasad-Katana Railway.—This branch line, 27 miles in length, has been constructed by the Bombay, Baroda and Central India Railway and was opened on the 1st September, 1930. It is being worked by the agency of the Bombay, Baroda and Central India Railway. The line is intended to afford railway communication in the area lying between the Mahi river and the Anand Cambay Railway. It is also required for administrative reasons. The southern part of the Borsad Taluka bordering on the river Mahi is a criminal district and it is difficult for Government officers to reach that part of the country for investigation; the railway line will make the detection of crime easier.

Unao-Madhoganj Railway.—This section, which forms a part of the East Indian Railway, was opened for traffic on 21st December, 1930. Besides forming part of a through connection from Cawnpore to the northern part of the Oudh and Rohilkhand Section, the branch taps a fairly populous agricultural area with large villages which should produce considerable local traffic. The newly completed Sarda Canal irrigates part of this area and should increase its productivity.

Fort Abbas-Baghdad Railway (*formerly known as Fort Abbas-Rohatwali-Hotwala*).—This Railway, about 88 miles in length, which is an extension of the Bahawalnagar to Fort Abbas branch line, has been constructed by the agency of the North Western Railway at the cost of Bahawalpur State. It was opened for traffic on 4th February, 1931. The purpose of the railway is to further the development of a tract of country which has recently been provided with a system of irrigation canals forming part of the Sutlej Valley Irrigation Project. It has been built and will be worked by the agency of the North Western Railway for and on behalf of the Bahawalpur State.

Marwar Bhinmal-Raniwara Extension of the Jodhpur Railway System.—This branch, 19·81 miles in length, has been constructed by the Jodhpur Railway for the development of the area that is served. The present extension is the third section to be opened making an aggregate length of 95 miles. It runs southwards through sandy undulating country. There is considerable cultivation throughout in the rains. The extension was opened to traffic on and from 1st March, 1931.

Pudukkottai-Manamadura Section.—60·44 miles. This section which was opened for traffic on 1st July, 1930, forms the last link of the chord lines, Villupuram-Trichinopoly and Trichinopoly-Manamadura (South Indian Railway), by which it was intended to shorten the through route from Madras to Dhanushkodi and Ceylon. With the completion of these chord lines the total through distance has been reduced by 72½ miles, and when the lines have sufficiently consolidated to permit of faster train services, it is hoped that there will be a very substantial reduction in the time taken to complete the journey from Madras to Dhanushkodi and on to Ceylon.

Salem Town-Chinnasalem Section.—50·78 miles. This forms the first 50 miles of the important metre gauge connection from Salem to Vriddhachalam (South Indian Railway) 83 miles, which will considerably facilitate traffic in the direction of Cuddalore Port and also open up a large tract of country at present unserved by railways. The section was opened to traffic on 3rd February, 1931.

43. Important New Works.—*Electrification Works, Great Indian Peninsula Railway.*—The electrified section Kalyan to Igatpuri comprising 49·58 route miles of double track, including the Thall Ghat which was referred to in last year's report, was opened for public traffic on the 30th July, 1930. This completes the whole main line electrification scheme contemplated at present.

Madras Hydro-Electric Schemes.—Mention was made in the last year's report of the Nilgiri Mountain Railway Electrification Scheme. This scheme has since been examined by the Railway Board, who are of opinion that as there is no probability of funds being available for it in the near future and as the project can hardly be regarded as remunerative under present conditions, it cannot be given a high priority among the various projects that the Railway Board will have to consider when financial conditions are more favourable. The Madras Government have been informed that no guarantee can be given at present that energy will be required from the Pykara-Hydro Electric Installation for this electrification scheme.

Electrification of the Madras Suburban Section—South Indian Railway.—Mention was made of this electrification in the report for 1927-28. During the year under review work was completed and was ready for opening at the end of the year.

Vizagapatam Harbour.—A satisfactory rate of progress in the Vizagapatam Harbour Construction work was maintained throughout the year. The Suction dredger 'Vizagapatam' dredged in the entrance to the northern basin providing a deep water area in the vicinity of the quay wall and in the inner and outer stretches of the channel. The combined dipper dredger and rock breaker 'Waltair' worked throughout the year on the removal of hard material and rock in the channel and in the entrance to the graving dock. The 'Mudlark' and 'Gamine' were engaged on the removal of hard material and also on dredging sand and silt The dragline excavator worked steadily along the northern bank widening and deepening the channel. The reclamation scheme has been well advanced during the year and 148·3 acres of swamp land has been reclaimed. $14\frac{1}{4}$ acres of this land has been earmarked for office sites and is available for leasing out for this purpose. Berths Nos. II and III were available for lighter traffic, the depth of the water at the quay face being actually that required for ocean-going vessels. Berth No. I was, in accordance with previous intentions, made available for the shipment of manganese ore. The quay wall was completed with granite coping and bollards, the quay face was macadamised and the sidings along it laid. Transit sheds Nos. 2 and 3 are practically complete. All roads for the development of the harbour area have been completed. The antimalarial measures previously initiated were continued throughout the year with successful results.

Rupnarain Bridge.—The doubling of the Rupnarain Bridge was mentioned in the report for 1929-30. During the financial year 1930-31 work of replacement of the smaller spans and the erection of the smaller spans on the doubled line were completed. As regards the larger spans of 300′ during the year progress was made in the preparation of designs and detailed drawings of the greater part of the structural work and machinery and progress also was made in the construction of the pile foundation of the erection bay.

Kalabagh Bridge.—A brief account of the progress of construction of this bridge by the North Western Railway appeared in last year's report. Further good progress has since been made and the bridge is expected to be opened to public traffic in August, 1931.

Bridge over the Irrawaddy at Sagaing.—Burma Railways.—A brief account of the project appeared in the report for the year 1927-28. Good progress in earthwork, well sinking and construction of piers, etc., has since been made and it is hoped that the bridge will be ready for service by the end of 1933.

Dohad Workshops, Bombay, Baroda and Central India Railway.—The construction of workshops at Dohad for the engine repair work of the Bombay, Baroda and Central India Railway was commenced early in 1925 to relieve the congestion at the Parel workshops and to afford room at Parel for the development of such branches of work as were ultimately to be retained at that place. At the same time it was intended that further transfers from Parel should be effected if Dohad proved to be a suitable site for large railway workshops,

and in accordance with this policy the provision of a complete ' manufacturing ' unit, in addition to the ' Loco: repair ' unit already in hand was commenced early in 1928. Work on these two projects has been progressing very satisfactorily and but for difficulties connected with the transfer of staff from Bombay, the units would have been put into commission some time ago.

During the year under review further works were commenced at an estimated cost of about Rs. 48 lakhs as follows :—

additional quarters for the staff of the Loco: repair and manufacture units; markets, merchants' shops and shopkeepers' quarters; and additional workshop facilities and staff quarters to enable the rest of the engine repair work to be transferred from Parel.

44. Open Line Improvements.—*Overbridges at Madras.*—There are three level crossings of the South Indian Railway in the centre of Madras, *viz.*, Whannel's Road, St. Mary's Road and in the Esplanade Area. The question of the replacement of these level crossings by overbridges in order to remove detentions to road traffic has been engaging the attention of the Railway Board for a long time. Firstly, due to the war and then to want of settlement of certain questions connected with the scheme, the work could not be undertaken. With the settlement of these questions and the prospect of the suburban section of the South Indian Railway being doubled and electrified in the near future, the construction of the overbridges has been sanctioned, the expenditure to be met jointly by the South Indian Railway administration and the Madras Corporation. The work is in progress.

Doubling Cawnpore-Tundla Section, East Indian Railway.—The Railway Board have recently sanctioned a scheme for the doubling of the East Indian Railway between Cawnpore and Tundla, a length of 142 miles. The project is intended to relieve the congestion on this section of line which is already working up to its full capacity and to meet developments within the next few years. The work is in progress.

Doubling the line between Tatanagar and Kharkai Block Hut (including the girder work on the Kharkai Bridge), Bengal Nagpur Railway.—For some time past it has been recognised that the single line between Tatanagar and Kharkai block hut is being overtaxed and is unable to deal efficiently with the existing traffic. In order to increase the capacity of the line, as also to meet developments within the next few years, it has been decided to double the line in question. The work has been sanctioned and is expected to be finished in about 1½ years.

Isolation of the main line at 69 stations between Khargpur and Nagpur.—In 1926 the Railway Board issued definite instructions that the run through or main line at stations should be isolated from other running lines, otherwise speed restrictions would be necessary. The Bengal Nagpur Railway therefore decided to isolate all stations on the broad gauge line through which express trains are run and submitted an estimate, amounting to Rs. 21,08,162, for the complete isolation and interlocking of 69 stations between Khargpur and Nagpur. The estimate was sanctioned by Government in August, 1930. Good progress has been made and over two-thirds of the work have been completed.

Kotri Bridge over the river Indus, North Western Railway.—The advisability of remodelling and strengthening the girders on the existing bridge to permit running on the section between Karachi and Lahore, of the new heavy standard engines of 22½ ton axle loads now in India, was accepted. It was also decided to provide roadways cantilevered out on either side of the railway in place of the present highways, which is carried on the railway floor system, and to replace the flooring system with a new one. The bridge when completely remodelled according to the proposed scheme will provide for the heavy mineral standard of loading. An estimate amounting to Rs. 17,26,236 for the bridge was sanctioned by the Governor General in Council in July, 1930. The Local Government have agreed to contribute towards the cost of the roadway.

Bombay Central Station.—The necessity for the provision of a station for the long distance passenger traffic of the Bombay, Baroda and Central India Railway at Bellasis Road was explained in paragraph 60 of Volume I of the Railway Board's Report on Indian Railways for 1926-27. It was also stated that the work had been put in hand. The progress made on the scheme was reported in subsequent reports. The station was completed during the year under review and its opening ceremony performed by His Excellency the Governor of Bombay on the 18th of December, 1930.

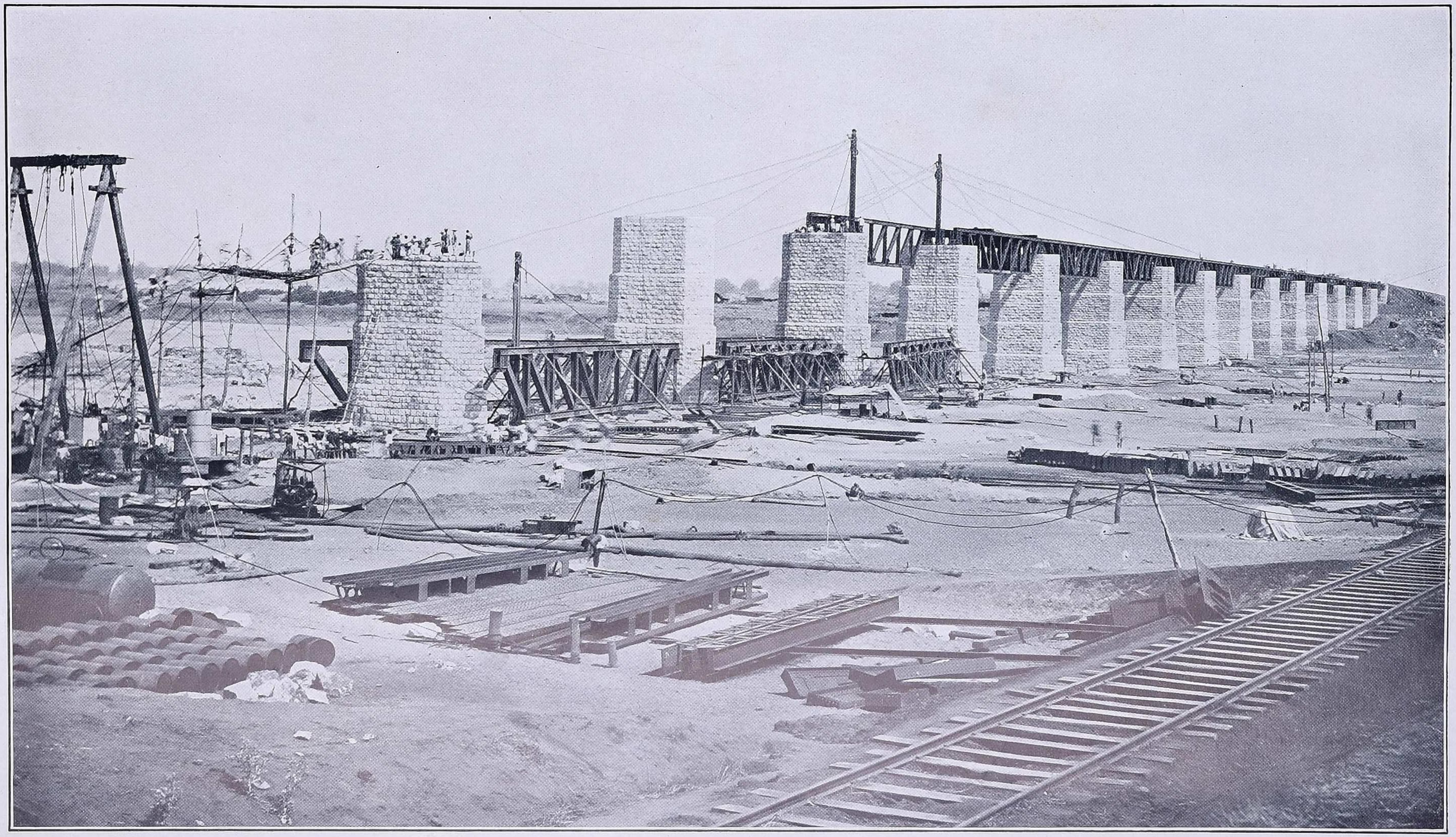
45. Bridge Standards Committee.—An interim meeting of the committee was held in July, 1930, to consider the experiments recently conducted to collect data for fixing the impact factor on small girder spans, the underlying idea being that it is probably possible to reduce this impact factor and extend the useful life of a large number of old spans. A new and very promising method of attacking the problem was developed and is described in the ninth report. It was decided to postpone further work until the vexed question of the reliability of the stress records was settled. Certain stress records showed very high impact stresses, which it was thought were very probably exaggerations and unreliable. This difficult question had troubled the British Bridge Stress Committee also and still remained unanswered. The necessary investigation was taken up during the ensuing cold weather by the Central Standards Office and it is believed that the problem has now been finally solved and the road cleared to a substantial reduction of the impact factor.

In December a joint meeting of the Committee with representatives of bridge manufacturers, Messrs. Tata Iron and Steel Company, and the Indian Stores Department was held in Delhi. The object of the meeting was to discuss the difficulties experienced in India in respect to obtaining certain steel sections, manufacture in the shops and inspection, and to avoid them as far as is technically allowable in all future bridge designs. It was found possible to go a long way towards acceding to the various requests put forward by the manufacturers, and the meeting has undoubtedly resulted in closer co-operation between the groups represented.

46. Track Standards Committee.—This Committee met twice, in May, 1930, and January, 1931. The drawings of switches and crossings were considered and these have since been standardized and brought into use. The fittings for the various types of cast iron sleepers were also standardized, thus eliminating the manufacture and stocking of a large number of fittings which were very similar but yet differed sufficiently to prevent them being interchangeable. A further programme of work on the same lines was inaugurated and is being followed up by the Central Standards office.

47. Signalling and Interlocking Standards Committee.—This Committee also met twice, in August, 1930, and in January, 1931. At the first meeting the most important item was the production of a manual of the requirements and regulations for single and double line token instruments and for their installation, maintenance and working. This has since been incorporated in the revised rules for the opening of a Railway. The initial steps were taken at the same meeting to produce a block signalling manual. At the second meeting standard drawings of signal fittings, about 500 in number, were inspected and passed, and these are now being issued as standard for all State Railways.

BENGAL NAGPUR RAILWAY.



Tel River Bridge in course of construction—Raipur-Vizianagram Section.

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CHAPTER IV.

TRANSPORTATION AND WORKING.

48. Statistics.—Volume II of the Report is a compilation of financial and statistical summaries and statements for the year under review with corresponding statistics for the immediately preceding year (1929-30), which afford means of comparison with the working results of that year. These statistics cover practically the whole range of railway working including both the financial and operating aspects. The following brief references to some of the more important operating statistics may prove of interest.

Passenger miles and net ton miles.—Probably the best index to the volume of traffic handled by railways consists of the figures of passenger miles as regards passenger traffic and net ton miles as regards goods traffic. These terms signify the total number of passengers and tons carried multiplied by the number of miles over which they are moved. The figures for Class I railways, which carry approximately 97 per cent. of the total traffic of the Indian Railways, are shown below and register a considerable drop in passenger miles compared with the previous two years. This is mainly to be accounted for by the general decline in the trade of the country, as a result of which the movement of merchandise and of passengers by railway inevitably became less.

	In thousands.			
	1928-29.	1929-30.	**1930-31.**	Percentage of increase or decrease compared with 1929-30.
Passenger miles	21,247,570*	22,194,143	**19,708,551**	—11·2
Net ton miles	21,183,002*	20,785,621	**19,711,926**	—5·17

Passenger and Goods Service.—A comparison of the train service required to move this traffic is best shown by the number of train miles run, train miles signifying the number of trains in operation multiplied by the number of miles run, and is shown in the statement below. It will be observed that the passenger train miles on the broad gauge decreased slightly, although not in proportion to the percentage decrease in passenger miles. As was natural, the drop in goods train miles, both on the broad gauge and metre gauge, corresponded much more nearly to the decrease in the traffic handled, thus differing from passenger train miles which remain constant irrespective of the number of passengers carried until a modification in the scheduled train service is effected. The average number of miles all classes of passengers were carried decreased slightly from 35·6 to 34·9. The figures in 1927-28 and 1928-29 were 34·1 and 34·9. Full details of train and engine miles of Class I railways will be found in Statement No. 17 of Volume II, and of Class II and III railways in Statement No. 37.

	Class I—Railways, Broad Gauge (in thousands).				Class I—Railways, Metre Gauge (in thousands).			
	1928-29.	1929-30.	1930-31.	Percentage of variations with 1929-30.	1928-29.	1929-30.	1930-31.	Percentage of variations with 1929-30.
Passenger train miles	67,011*	70,328*	69,211	—1·59	28,828*	31,924*	32,269	+1·08
Goods train miles	45,601*	44,358*	42,094	—5·10	22,569*	22,724*	21,228	—6·58

*Revised figures.

49. Wagon usage.—Wagon usage is expressed either in the average number of miles run per wagon per day, both loaded and empty wagons being taken into account, or in the average net ton miles performed by a wagon per day. It is to be noted, however, that both these statistical figures indicate the work done by the total number of wagons on railways and not by the wagons actually in use; empty wagons are taken into account even if lying in excess to traffic requirements in sidings. The following table shows these results for 1930-31 compared with the previous year :—

	Broad Gauge.		Metre Gauge.	
	1929-30.	**1930-31.**	1929-30.	**1930-31.**
Wagon miles per wagon day	37·9	**36·0**	·30·5	**28·0**
Net ton miles per wagon day	334·5	**314·2**	148·8	**137·4**

It will be observed that the statistical figure whether of wagon miles or net ton miles records a drop, which is explained by the general decline in the quantity of goods traffic carried. A figure ordinarily regarded as indicative of the efficiency of railway service in the movement of goods is that of the net ton miles per engine hour. The last few years have registered a consistent improvement in this direction, being, for the year under review, as regards the broad gauge 1,677·6 and for the previous year 1,628·6. On the metre gauge the figure was 763·4 for the year under review as compared with 739·8 for the previous year. These figures relate to engines *in use* and not engines *on line*. Engines in excess of traffic requirements are stabled and consequently are not regarded as being in use. The average through speed of goods trains also shows an improvement, being 10·5 miles per hour on the broad gauge and 10·3 on the metre gauge, as compared with 10·3 and 9·9 respectively for the previous year. The average net load of a goods train remained at practically the same figure, being 384·5 tons on the broad gauge and 160·4 on the metre gauge, as compared with 385·8 and 156·8 respectively for the previous year.

Shunting engine miles.—The relation of shunting engine miles to train mileage whether of passenger or goods trains is a figure which also affords a fair indication of the efficiency of working if watched through a period of years. It should be explained that, apart from train engine mileage on productive work, many thousands of engine miles are run in connection with shunting, light running, assisting and departmental work which are termed unproductive. Of the unproductive mileage the larger proportion consists of shunting, and the following table shows the proportion of shunting engine mileage to train mileage for the last three years both for passenger and goods trains. The train miles of mixed trains are divided into passenger and goods train miles according to a formula adopted for statistical purposes. The figures it will be observed, have remained fairly consistent :—

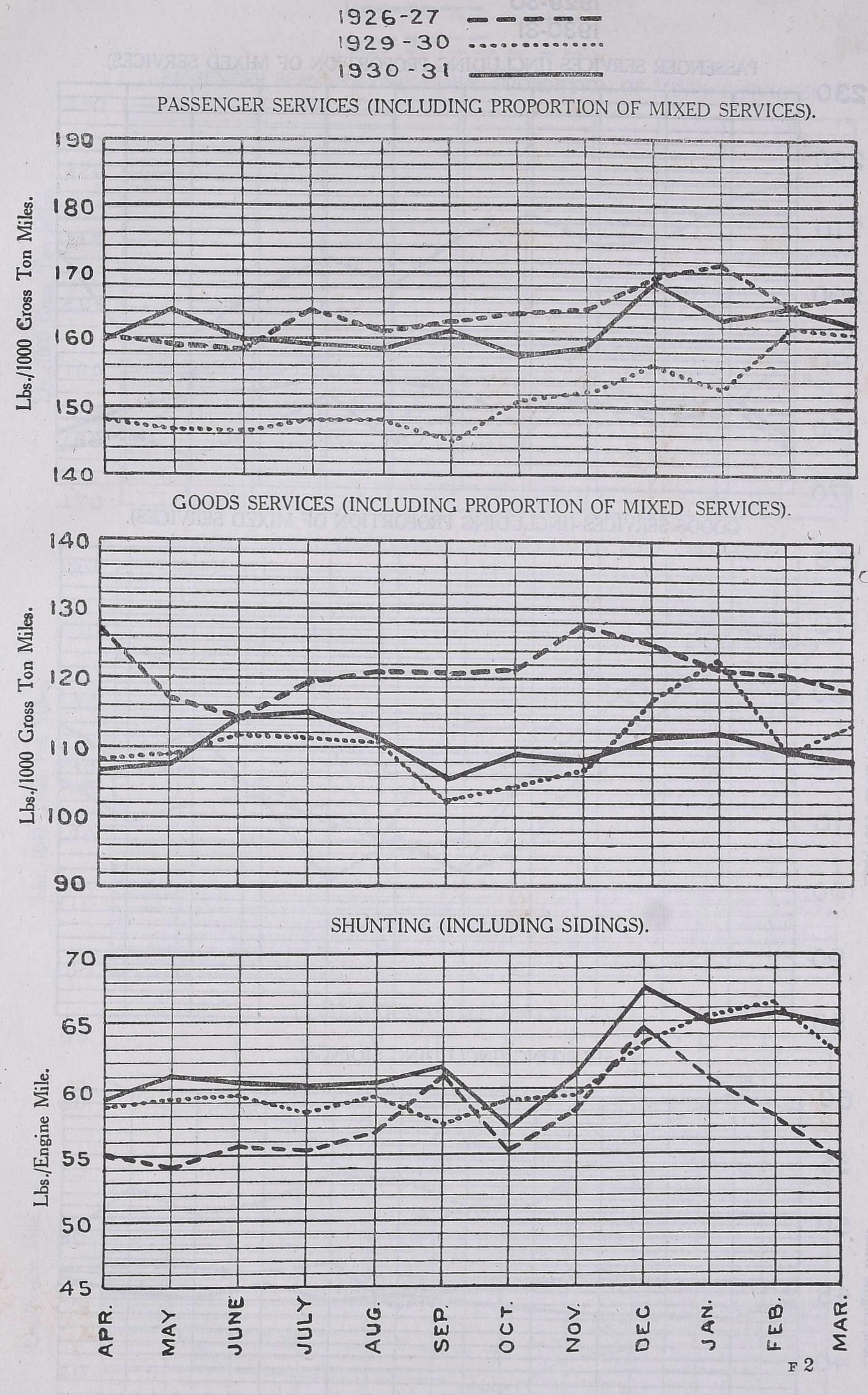
	Broad Gauge.				Metre Gauge.			
	1928-29.	1929-30.	**1930-31.**	Percentage of variations with 1929-30.	1928-29.	1929-30.	**1930-31.**	Percentage of variations with 1929-30.
Shunting miles per 100 train miles (Passenger and proportion of mixed).	5·29	5·23*	**5·31**	+1·53	5·48	5·25	**5·10**	—2·86
Shunting miles per 100 train miles (Goods and proportion of mixed).	36·9	37·7*	**37·5**	—0·53	32·8	32·7	**33·2**	+1·53

* Revised figures.

COAL CONSUMPTION.

EAST INDIAN RAILWAY.

5′-6″ GAUGE.



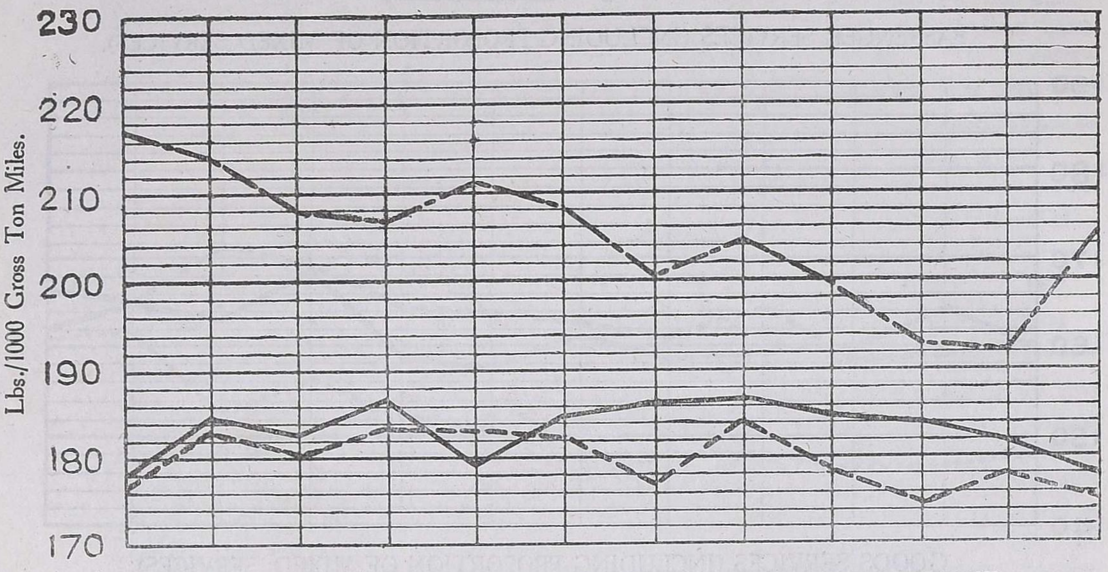
COAL CONSUMPTION.

EASTERN BENGAL RAILWAY.

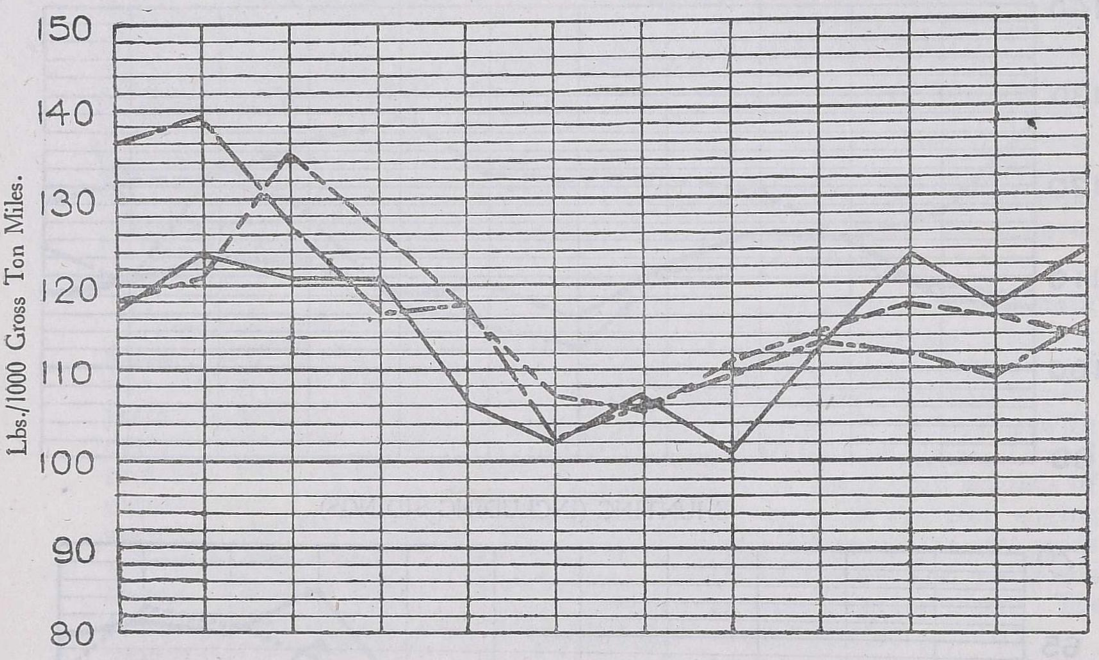
5'-6" GAUGE.

1926-27 - · - · - ·
1929-30 ————
1930-31 – – – – –

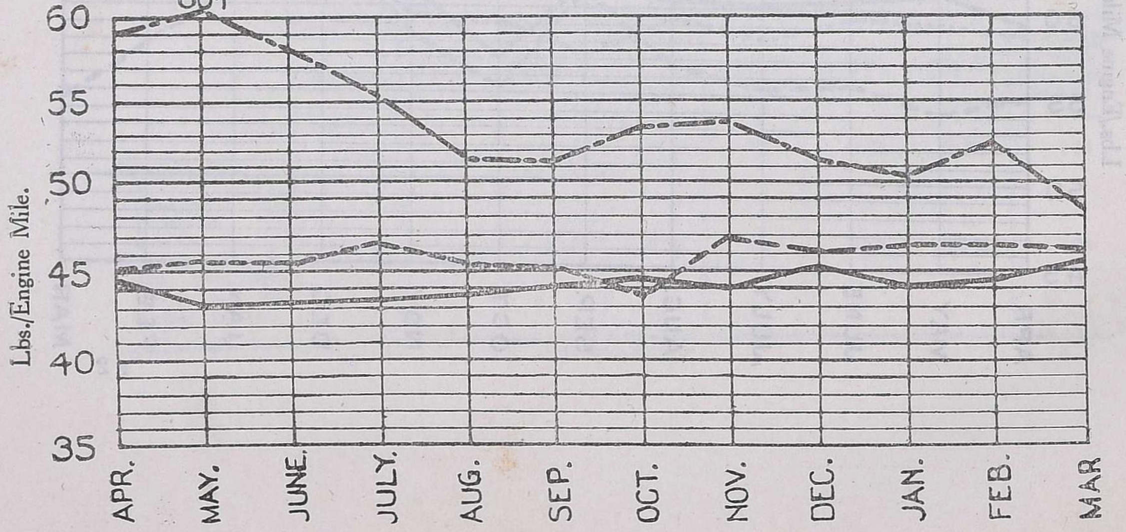
PASSENGER SERVICES (INCLUDING PROPORTION OF MIXED SERVICES).



GOODS SERVICES (INCLUDING PROPORTION OF MIXED SERVICES).



SHUNTING (INCLUDING SIDINGS).



COAL CONSUMPTION.

EASTERN BENGAL RAILWAY.

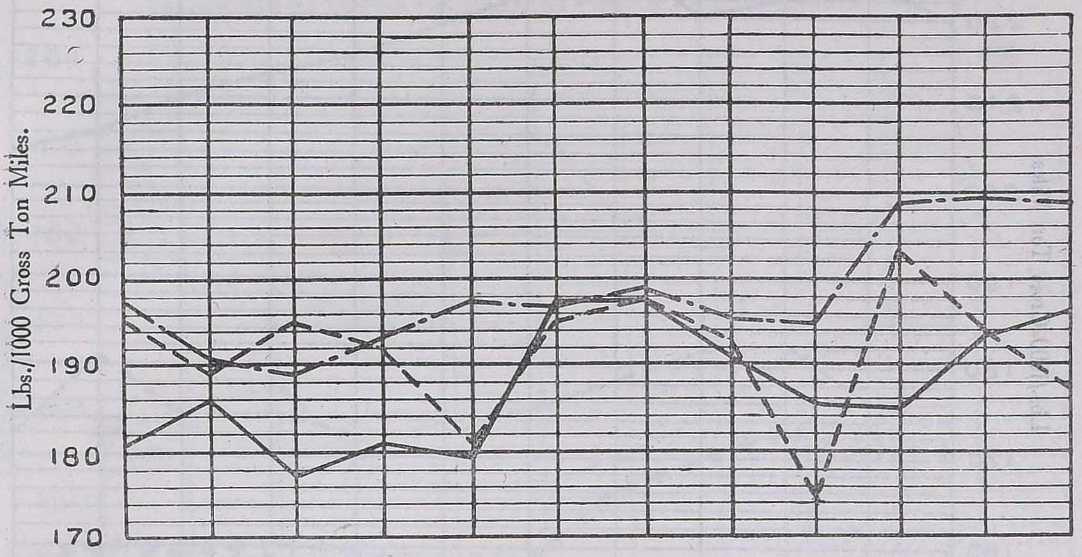
3′-3⅜″ GAUGE.

1926-27 —·—·—

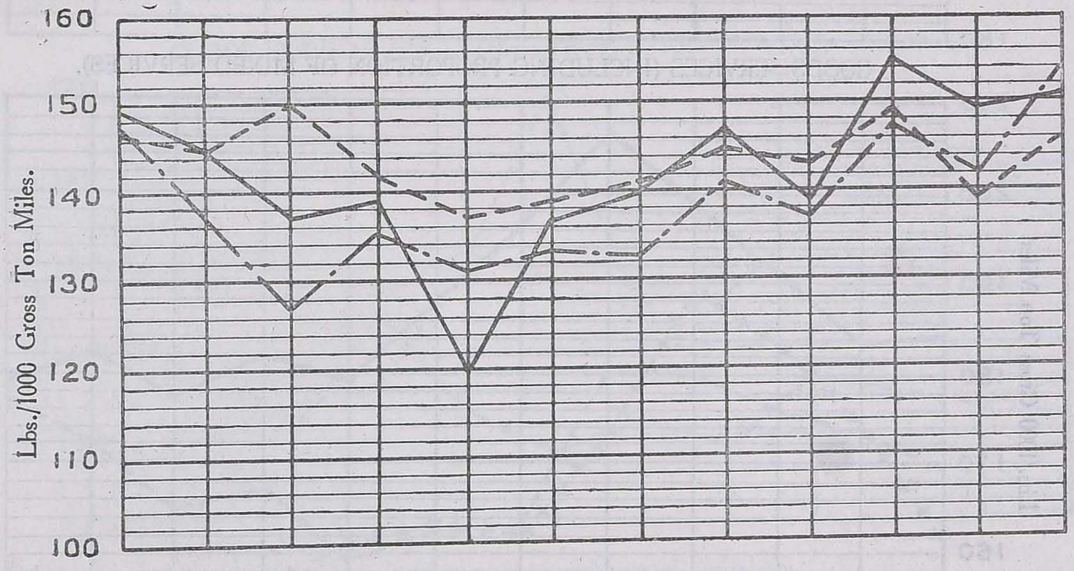
1929-30 ———

1930-31 — — — — —

PASSENGER SERVICES (INCLUDING PROPORTION OF MIXED SERVICES).



GOODS SERVICES (INCLUDING PROPORTION OF MIXED SERVICES).



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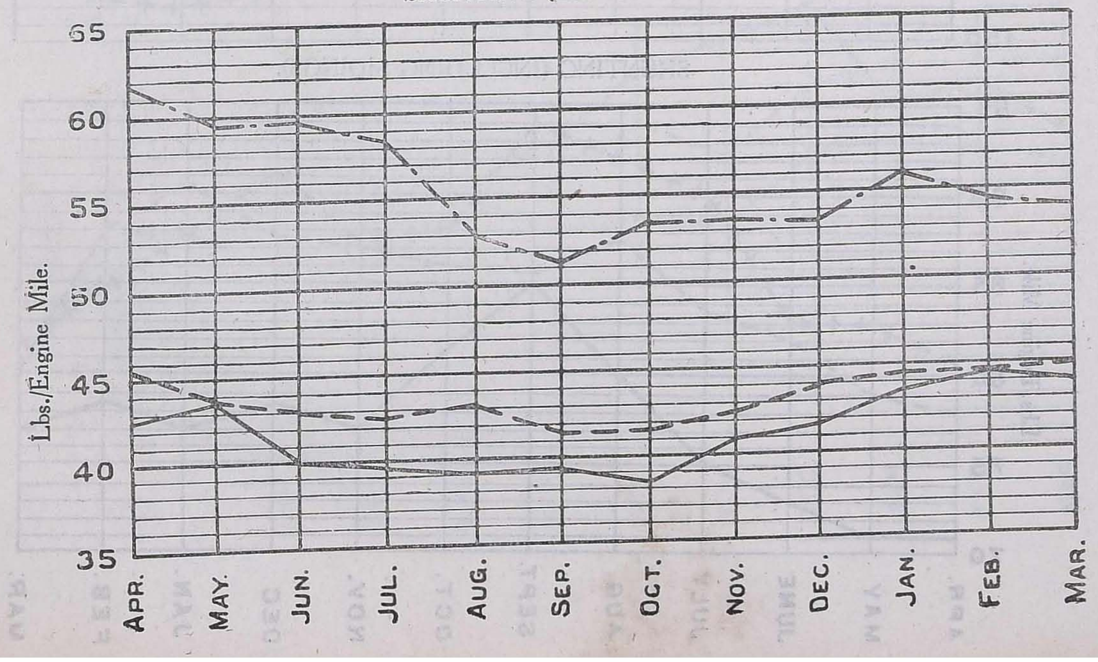


COAL CONSUMPTION.

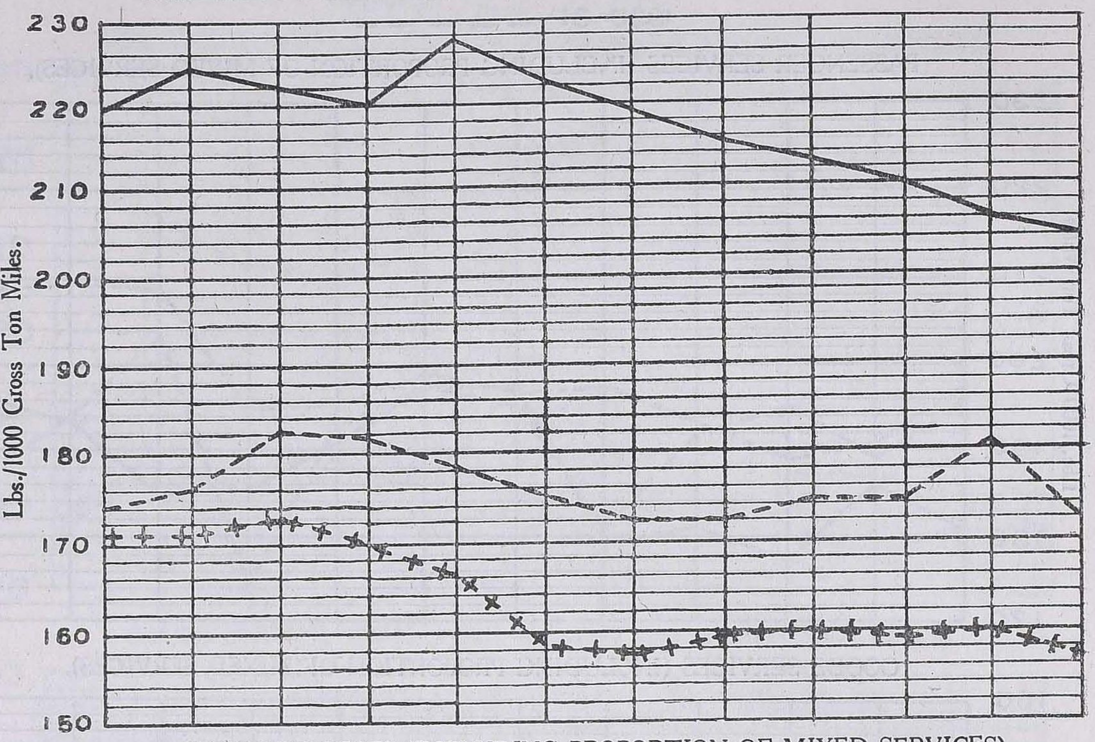
GREAT INDIAN PENINSULA RAILWAY.

5′-6″ GAUGE.

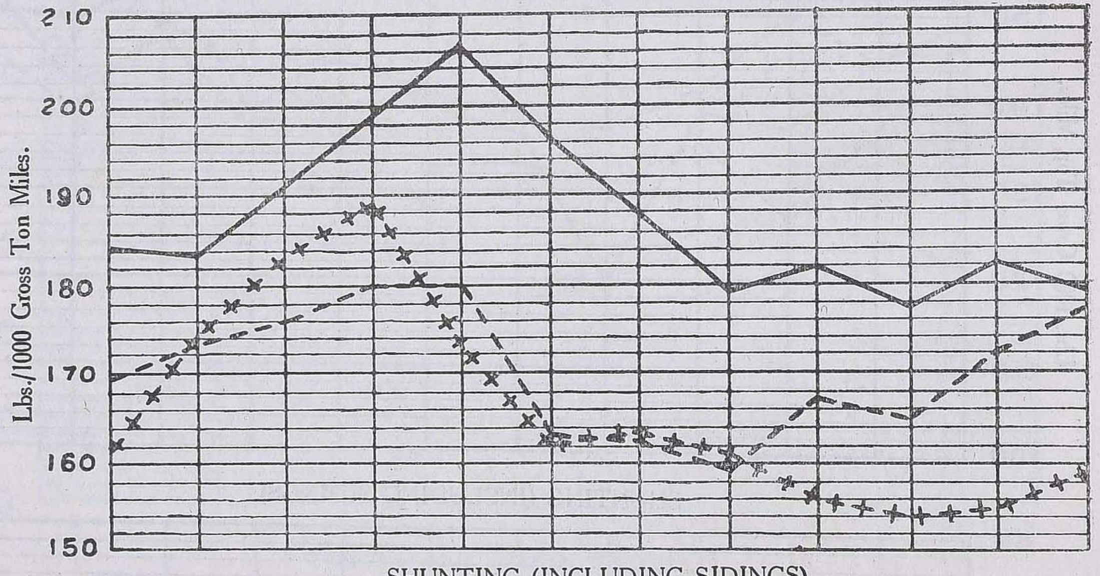
1926-27 ————— 1930-31 + + + + +

1929-30 – – – – –

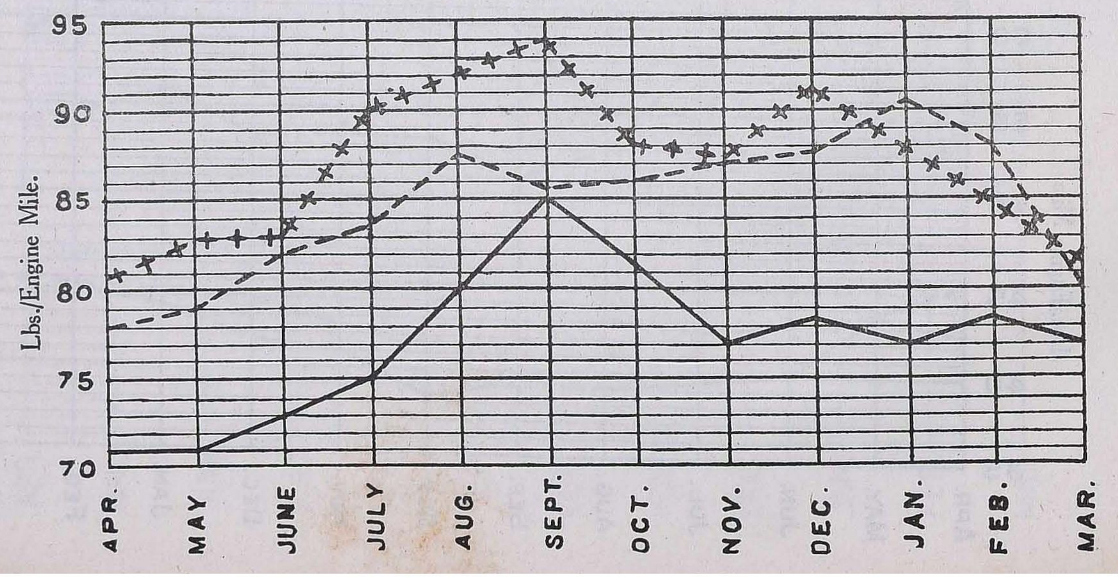
PASSENGER SERVICES (INCLUDING PROPORTION OF MIXED SERVICES).



GOODS SERVICES (INCLUDING PROPORTION OF MIXED SERVICES).



SHUNTING (INCLUDING SIDINGS).



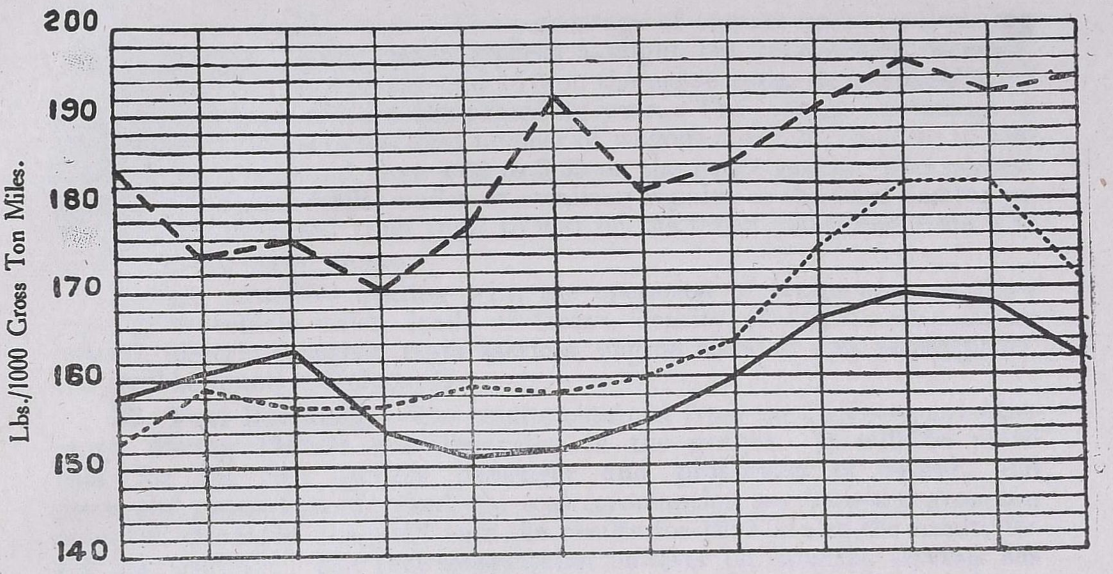
COAL CONSUMPTION.

NORTH WESTERN RAILWAY.

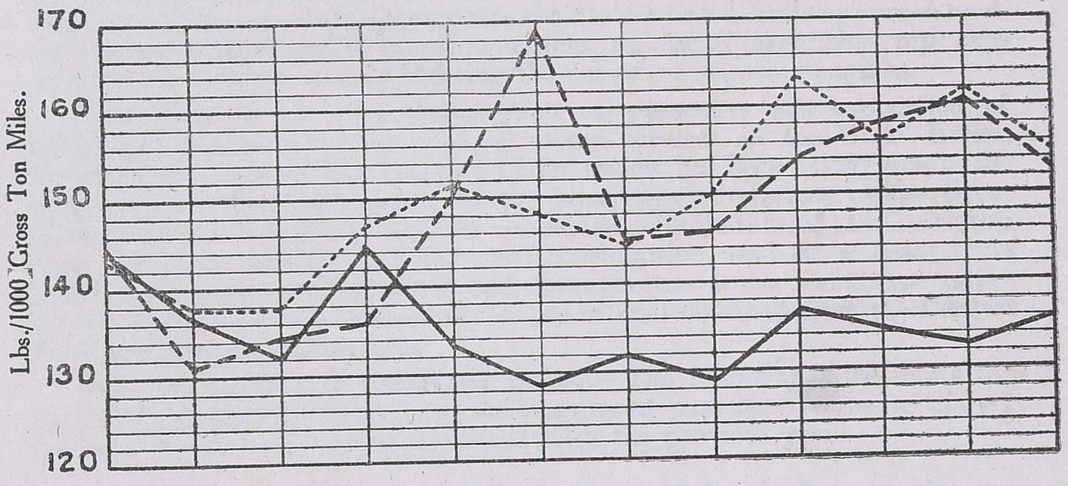
5'-6" GAUGE.

1926-27 — — — —
1929-30 ....
1930-31 ————

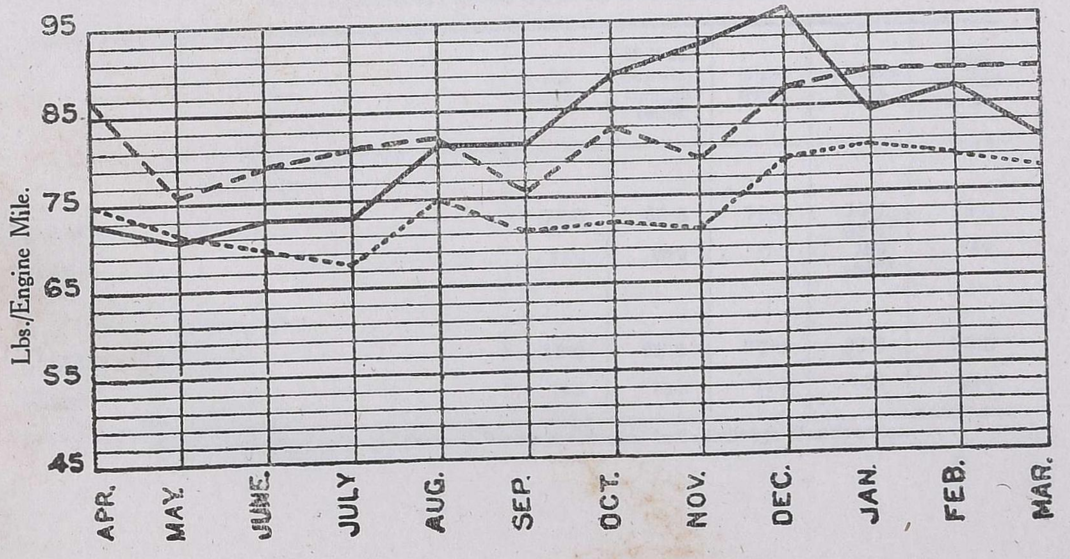
PASSENGER SERVICES (INCLUDING PROPORTION OF MIXED SERVICES).



GOODS SERVICES (INCLUDING PROPORTION OF MIXED SERVICES).



SHUNTING (INCLUDING SIDINGS).



Engines.—As was to have been expected in a year of declining traffic the number of miles obtained from each engine on the line per day decreased. On the broad gauge the figure became 68 as against 71 for the preceding year and on the metre gauge 61 as against 73. The number of miles obtained from each engine in use, however, has shown an improvement as already stated.

Repairs to rolling stock.—The percentage of engines under or awaiting repairs to total engines again records a slight but satisfactory decrease, being 19·0 on the broad gauge and 15·6 on the metre gauge as compared with figures of 19·1 and 16·1 for the preceding year. The average percentage of unserviceable wagons to the total number of wagons also fell from 6·18 to 5·66 on the broad gauge and from 4·63 to 3·55 on the metre gauge. The percentage of passenger vehicles under or awaiting repairs to the total number on the line also decreased from 10·37 to 9·91 on the broad gauge and from 9·82 to 8·80 on the metre gauge.

Further statistics dealing with the operation of trains such as those relating to vehicle miles, loads of trains, density of traffic, commodities carried, electric suburban train services, engine miles to coal consumption, etc., will be found in Volume II.

50. Fuel Economy.—The results obtained from the fuel economy campaign during 1930-31 are illustrated in the graphs. It will be noted that for the two services passenger and proportion of mixed, and goods and proportion of mixed, the coal consumption per thousand gross ton miles has decreased compared with the results for 1929-30 and the results for the year 1926-27. The fuel consumption however on shunting services has increased, the chief cause of which is due to the better utilisation of shunting power in transportation yards. To counterbalance this increase in the coal consumption on shunting engines, the State worked Railways are extending the rationing of coal to shunting engines, the use of larger blast pipe caps on shunting engines, and by limiting the cut-off of shunting engines.

The drop in the fuel consumption on passenger and proportion of mixed and goods and proportion of mixed services on the Great Indian Peninsula Railway during the year under review has been chiefly due to the completion of the electrification of the heavy graded sections of the Great Indian Peninsula Railway and the consequent elimination of steam services from the ghat sections on which coal consumption used to be heavy. As suitable locomotives are obtained and opportunities occur, the Great Indian Peninsula Railway are extending the use of coal obtained from the Central Provinces mines on all services.

51. Punctuality of passenger trains.—The following table shows the degree of punctuality obtained in the running of passenger trains on Class I railways during the year as compared with the previous year.

Percentage of passenger trains not losing time to total number of trains run during 1930-31 as compared with 1929-30.

—	All trains.	Mail and important through trains.	Mixed trains.	Suburban trains.	Other passenger trains.
Broad Gauge.					
1930-31	**76·0**	**69·2**	**79·6**	**76·7** **93·7***	**75·0**
1929-30	74·6	66·3	77·6	75·5 88·3*	74·1
Metre Gauge.					
1930-31	**75·6**	**68·3**	**77·2**	**83·3**	**70·5**
1929-30	73·3	68·6	74·4	90·7	63·6

* Great Indian Peninsula and Bombay, Baroda and Central India Railways Electric trains.

It will be seen that on the broad gauge there has been an appreciable improvement and on the metre gauge a falling off in the punctuality of the running of mail and important through trains and suburban trains.

52. Bombay Electrical Services.—*Great Indian Peninsula Railway.*—The electrification of the main line and suburban sections of this railway is the second largest railway electrification in the British Empire and is well placed in importance amongst similar schemes throughout the world. The last remaining section of the area was put into operation from 1st September, 1930. The stages of development were as follows :—

Through electric route opened between Victoria Terminus and Kurla *viâ* Harbour Branch from 3rd February, 1925.

Opened to Bandra from 3rd February, 1926.

Opened to Thana *viâ* Harbour Branch from 21st June, 1926, and *viâ* Main line from 1st November, 1926.

Electric freight locomotives came into operation between Bombay and Kalyan from September, 1928.

Opened to Kalyan from 12th November, 1928.

Electric freight locomotive working extended to Karjat from May, 1929, and further extended to Poona in October, 1929.

Electric Locomotive passenger service opened to Poona from 5th November, 1929.

Goods working between Kalyan and Igatpuri commenced from 20th May, 1930.

Passenger working between Kalyan and Igatpuri commenced from 30th July, 1930.

Full passenger working electrically throughout the electrified area as from 1st September, 1930.

Throughout the year 271½ miles of 110 K. V. single circuit transmission lines have been maintained in full commission for supplying power to 11 sub-stations in the electrified area beyond Kalyan. Fifteen traction sub-stations of a total capacity of 100,000 Kilo Watt (normal rated output) are now in full commission and their operation throughout the year has been generally satisfactory. Four new sub-stations were put into service during the year. There are now 571 single track miles (including sidings) of overhead equipment in service. In addition to the original passenger locomotives which were under trial, 21 new locomotives were put into operation and are now in service. Besides these 41 electric freight locomotives are now operating in service. Power for the services is received from Tata's Hydro Electric Company and from the Kalyan Power Station. The supply from the former failed 11 times during the year for a total duration of 11 minutes. Three failures occurred in the latter and the maximum duration was 8 minutes.

Bombay, Baroda and Central India Railway—Colaba to Borivli.—There was no extension of the electrical services during the year. The temporary extension between Church Gate and Colaba was closed down on the 31st December, 1930, when the section of railway between Church Gate and Colaba was relinquished. On the closing of the Colaba-Church Gate section the Church Gate track sectioning cabin was put out of service on 1st January, 1931. A new combined track sectioning cabin has been erected and was brought into use on 2nd February, 1931. Generally there have been improvements in operation and maintenance as compared with previous years, and major failures were practically eliminated.

53. Through Mail and Express Services.—Mention was made in last year's report of the introduction of the Grand Trunk Express through service between the Punjab and Southern India *viâ* Itarsi, Balharshah and Bezwada. This train, when first introduced, ran between Peshawar and Mangalore, and from 1st March, 1930, between Lahore and Mettupalaiyam. From the 1st September, 1930, it has run between Delhi and Madras, connecting at the latter station with the South Indian Railway boat mail. The Bombay,

Interior of Restaurant car.

Baroda and Central India Railway's Frontier mail between Bombay and Peshawar, which was routed over the North-Western Railway between Delhi and Peshawar, *viâ* Bhatinda, has, since the 1st September, 1930, been routed *viâ* Ambala. From the 1st March, 1931, express trains between Bombay and Lahore *viâ* the Great Indian Peninsula Railway running over the North-Western Railway between Delhi and Lahore *viâ* Saharanpur were extended to and from Peshawar Cantonment. Nos. 7 Up and 8 Down East Indian Railway's Howrah-Delhi express trains which formerly ran between Tundla and Delhi *viâ* the Great Indian Peninsula Railway stopping at Agra and Muttra, were diverted *viâ* Ghaziabad, as it was found that the traffic on the former route did not justify the additional mileage entailed.

54. Road Motor Competition.—There was no abatement in the extent to which railways continued to be subjected to competition from road motor transport during the year. The problem is one presenting in many respects the same difficulties that have been experienced by railways in other countries, and further competition in this country is only limited by the lower ratio of road to railway mileage. Generally it may be said that wherever there are metalled roads motor buses ply for hire provided the population is sufficient to support the traffic, and buses continue to increase in numbers up to the traffic's full requirements and frequently exceed it. Information received by the Railway Board shows that the road services are usually not organised, in that they run to irregular timings and usually not until a full complement of passengers has been obtained, do not have settled charges, and are frequently in excess of requirements. In these circumstances railways experience considerable difficulty in meeting competition catering for short lead traffic on certain lengths, but continue by careful adjustment of the train timings, by the speeding up of trains and, on certain sections, by reducing fares, to make every endeavour to hold it. The long lead traffic as regards first and second class passengers has also been adversely affected by the development of the automobile and by the large increase in the ownership of private motor cars. The carriage of merchandise by private lorry on a few sections of road adjacent to the railway has affected traffic earnings to some extent, but generally it may be said that the facilities offered by the railways on such sections continue to provide the more economical and convenient means of transport for this traffic.

Some indication of the measures adopted on certain railways to combat road competition is given below which may be taken as typical of those being adopted on railways in this country generally.

Assam Bengal Railway.—An officer was placed on special duty to investigate the subject of road competition during the year and, as a result of his recommendations, various alterations were made in the train service. On one section fares were reduced and additional trains placed in service which had the effect of increasing the traffic by rail from the more distant stations but the road competition continued to be intensive for shorter distances. On certain sections for short leads it has been found that the railway cannot compete with the motor buses.

Bombay, Baroda and Central India Railway.—The position has not altered as compared with the previous year. The opening of intermediate flag stations along with the reduction in fares on certain sections met with some success and the traffic on these sections was being carefully watched.

East Indian Railway.—Mention was made in last year's report of the special methods adopted to keep pace with the situation in regard to motor bus competition. It was possible by these means to place before executive officers complete details and information bearing on motor bus activities on different sections of the line and this facilitated consideration of the action to be taken for the improvement of railway services and the creation of better facilities wherever possible. One of the main factors in the situation is the importance of frequent and suitable train services, and when steps have been taken to improve these and to adapt them as closely as possible to public requirements, a marked improvement in the railway position has usually

followed. The general fall in railway revenues and the urgent need for economy (for which reductions in train mileage afford a ready means) have created conditions of some difficulty in meeting improvements in train services. In addition, the existence of road competition has exerted a limiting influence on the extent to which economies that might otherwise have been possible could be introduced. Where deficiencies in train services cannot be remedied owing to the additional cost involved, it has been found that an alternative is to counterbalance the set-back to traffic by a reduction in fares. There is evidence that the private automobile and the rapid development of the motoring habit has affected earnings from first and second class passengers considerably. As far as merchanise traffic is concerned there has been no marked development of mechanical road haulage. The railway has however lost a certain amount of traffic in merchandise conveyed on certain sections by passenger motor buses. A difficult problem at the present time is the delay incidental to certain short distance goods traffic by rail; this is a matter which continues to receive attention with a view to the acceleration of the services by methods consistent with economy.

Great Indian Peninsula Railway.—In order to cope with the increasing work in connection with road motor competition a separate office was opened in the beginning of the year. Road competition continues to be severe and there is hardly any route in the territory of the railway with fair prospects of traffic which is not exploited by private enterprise. Through the medium of special reports a system has been established whereby the administration is enabled to gauge the extent of competition and to take remedial measures without delay. Competition which had previously been confined to short distance passenger traffic has gradually extended to the passenger and parcels traffic over longer distances and with a considerable degree of success on certain sections. On an average, the through point-to-point length of a bus route is 25 to 30 miles. There are several sections on this railway where good metalled roads run parallel to the railway line with the result that the passenger traffic is adversely affected. On one section the decrease in passenger traffic earnings during the half year ending 31st March, 1931, as compared with the corresponding period of the previous year amounted to 28 per cent. and in earnings of 30 per cent. It is difficult to say, however, how far this decrease was due solely to motor competition apart from other factors such as trade depression.

Motor transport within the sphere of influence of the railway is not well organised, nor is the service efficient. The convenience of the public is not studied, the buses run to irregular timings, there is no fixed basis of charge and frequently there is an unnecessary duplication of transport facilities. Nevertheless the buses have attained a certain popularity, mainly because they run through the heart of towns, whereas many railway stations are at some distance from the towns they serve. Apart from various adjustments in timings to suit particular sections of the line, a few additional train services were introduced on certain sections. On the other hand others had to be discontinued as they were being worked at a loss. On certain sections reduction in fares has been found to be an effective means of preventing loss of traffic. A scheme was investigated during the year to establish in a certain area railway out-agencies and to run auxiliary bus services in collaboration with private motor agencies to act as feeders to the railway. It was hoped to bring this service into operation during the ensuing year.

Madras and Southern Mahratta Railway.—The effect of road motor competition continued to be felt as in the previous year. This form of transport is well established in areas where the conditions are favourable. Road motor competition is not yet seriously felt in the case of long distance travel and very few of the road motor services runs exceed 50 miles. A detailed survey of the conditions on each section of the railway subject to competition is in hand and efforts were made to attract traffic to the railway by providing suitable and convenient train services on the sections of line affected and also by the introduction of cheap return tickets. The subject

receives close attention, but there is little doubt that considerable short distance traffic has been definitely lost to the railway where the rail route is circuitous compared with the road.

North Western Railway.—Competition from road motor buses continues to be felt on sections where roads run parallel or short circuit the railway. Experiments were made with week-end return tickets at reduced fares and by the placing of a number of short distance trains to compete against the road service on certain sections.

55. Neutral examination of interchanged wagon stock.—The system of neutral examination at junctions of interchanged wagons by inspection staff working under the Director of Wagon Interchange was continued at the following junctions :—

Jumna Bridge-Agra East Bank.	Raichur.
New Delhi (formerly Delhi Sadar).	Waltair.
Ghaziabad.	Khanalampura.
Ajni-Nagpur.	Chheoki.

At Chheoki (East Indian Railway) and Khanalampura (North Western Railway) an experiment was instituted from 5th November and 1st December, 1930 respectively, of carrying out repairs to wagons by neutral staff working under the neutral examiner under the general supervision of the Director of Wagon Interchange. An officer was placed on special duty to supervise the experiment whose report has since been received and is under consideration.

56. Debits for damages and deficiencies.—The debits raised for damages and deficiencies at junctions under neutral control show an increase during the year as will be seen from the figures given below. The increase is chiefly due to the revision, in January, 1931, of the charges for damaged body and floor plates; the charge for plates was previously As. 8 per square foot, but has now been fixed at Rs. 7-8 per plate.

	Number of wagons interchanged.	Debit per wagon. Rs. A. P.
1929-30	804,908	1 13 8
1930-31	857,433	2 10 5

The figure 804,908 for 1929-30 includes wagons repaired at Raichur and Waltair for the short periods from 1st and 15th February to 31st March, 1930, respectively, whereas the figure 857,433 includes wagons repaired at these junctions throughout the year 1930-31.

57. Railway Collieries.—The output from the principal railway owned collieries during 1930-31 compares with the previous year's output as follows :—

Colliery.	Owned by	Output (tons). 1929-30.	Output (tons). 1930-31.
Bokharo Ramgarh . . .	E. I. & B. N.	969,984	852,473
Sawang	E. I. & B. N. . .	96,776	101,471
Kurhurbaree and Serampore .	E. I. . . .	645,510	645,198
Bhurkunda	State . . .	106,988	112,058
Kargali	State . . .	914,059	817,582
Argada	B. N. . . .	340,396	295,305
Jarangdih	B., B. & C. I. & M. & S. M. Railways.	116,910	95,401
	Total .	3,190,623	2,919,488

Bhurkunda Colliery.—The development of the underground workings, especially in the newly opened Kurse Seam is being rapidly pursued and all haulage, pumping and other mining machinery is being electrified. In the Simana Seam, coal is being worked by an electric coal-cutter. A mechanical screening plant for cleaning, picking and leading the whole of the output into broad gauge wagons was erected and works very satisfactorily.

Kargali Colliery.—During the year the following works were completed at Kargali Colliery :—

Sub-station built at 12 feet seam incline and put into service.

Transformer and Switchgear installed at 12 feet seam incline sub-station.

300 K.V.A. Transformer installed at Dhori Colliery in place of 150 K.V.A. H.T. and L.T. Switches were also changed.

Combined sub-station compressor house built on new site at No. 3 Quarry.

New 750 K.V.A. Transformer for Jarangdih Line was put into service.

There was only one fatal accident at the Colliery during the year.

The distribution of the output is given below :—

Colliery.	Steam.	Smithy.	Slack & Dust.	Rubble.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.
Kargali.					
Great Indian Peninsula Railway.	409,074	1,975	2,826	36,689	450,564
East Indian Railway . .	158,288	...	15,098	...	173,386
Eastern Bengal Railway .	140,006	...	...	...	140,006
North Western Railway .	32,436	127	2,123	47	34,733
Sales	...	...	18,892	...	18,892
Total .	739,804	2,102	38,939	36,736	817,581
Bhurkunda.					
North Western Railway . .	77,096	...	1,744	...	78,840
East Indian Railway . .	31,331	...	1,887	...	33,218
Total .	108,427	...	3,631	...	112,058

Tonnage of coal inspected by the State Railways Coal Department.—The State Railways Coal Department inspected 6,584,355 tons of coal required for railway purposes during 1930-31, as compared with 6,360,264 tons in 1929-30.

East Indian and Bengal Nagpur Bokharo Colliery.—An increase in output did not bring about a decrease in the cost of raising per ton owing to the

necessity for spending money on essential protective works at quarries. These works have been completed during the year, and it is considered that they will keep the quarries safe from inundation from adjoining nullahs. The cost of raising a ton of coal during the year was Rs. 2-13-6 or six annas more than in the previous year.

East Indian and Bengal Nagpur Sawang Colliery.—The driving of underground galleries proceeded satisfactorily. A new quarry was cleaned of its overburden, and is almost ready for the extraction of coal. The full development of this colliery has been somewhat delayed owing to financial stringency.

Bombay, Baroda and Central India and Madras and Southern Mahratta joint Jarangdih Colliery.—This colliery is being equipped for an output of 620,000 tons per annum. The progress anticipated in the scheme of development of this colliery has not been realised owing to large quantities of gas having been met with in underground working. Moreover, a serious explosion on 20th July, 1930, caused great damage in the underground workings and has further retarded progress in development. The amount raised during the year was 94,970 tons as against 126,991 tons in the previous year.

Bombay, Baroda and Central India and Madras and Southern Mahratta joint Religara-Dari Colliery.—This property was acquired in 1923. Development has been suspended for some years on the orders of the Railway Board.

East Indian Railway Giridih Collieries, Serampur Colliery.—In spite of the difficulties arising from a fire in the central pit, coal is being worked from that pit. Work in the other pits was satisfactory, and extensions of a shaft and an inclined plane have been pushed on rapidly.

Kurharbaree Colliery.—Difficult conditions in pillar extraction areas have been successfully overcome. Improvements in screening plant are being carried out. Development generally was satisfactory. While there was a slight decrease in the total output of these two collieries, the cost per ton on this output, excluding colliery consumption was Rs. 4-6-1 in the year under review as against Rs. 4-7-11 in the previous year.

The outturn from the by-product plant was :—

	Tons.
Coke	27,605
Tar	1,033
Sulphate of Ammonia	314
Sulphuric Acid	353
Benzol	18,236 Gallons.

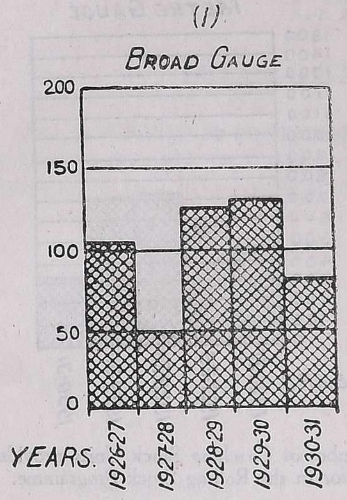
Bombay, Baroda and Central India Railway Colliery, Kurasia Colliery.—This property was acquired from Messrs. Tata Sons, Limited. It is 300 miles nearer to the headquarters of the railway than the Jarangdih and Religara-Dari joint Bombay, Baroda and Central India and Madras and Southern Mahratta collieries. Preliminary work has been started. It is proposed to develop the colliery for an output of 180,000 tons per annum.

Madras and Southern Mahratta Railway Colliery, Talchar Colliery.—Including the outlay during the year, about Rs. 32 lakhs have been spent on the development of this colliery which is proceeding satisfactorily. Coal is proposed to develop the colliery for an output of 180,000 tons per annum.

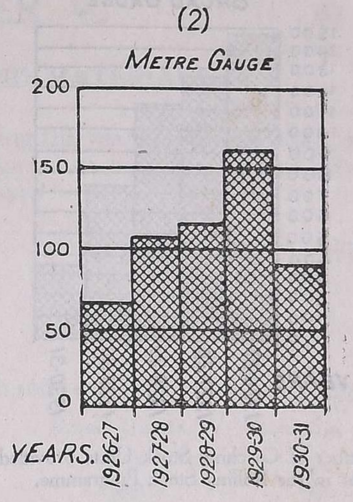
Bengal Nagpur Railway, Argada Colliery.—The output of the colliery was less during the year as compared with the previous year owing to flooding which was caused by breaches in irrigation bunds in the neighbourhood.

Coal mined in India.—In 1930, the coal mined in the various provinces of British India amounted to 22,683,861 tons as against 22,308,174 tons in 1929, or an increase of 375,648 tons.

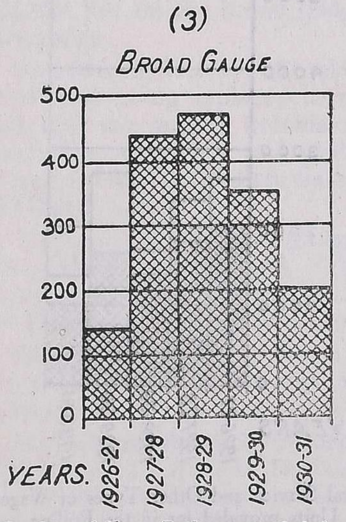
Shipment of coal from Calcutta.—Including bunker coal, shipments from the port of Calcutta to Indian and Foreign ports during 1930-31 amounted to 2,804,875 tons, of which 652,971 tons were on account of Indian Railways, and 170,145 tons for the Ceylon Government Railways, or a total of 823,116 tons as compared with 902,912 tons in 1929-30. The above represents shipment by sea-going vessels. At the Dock and Garden Reach coal berths, 131,158 tons of coal were shipped by boats and flats during the same period.



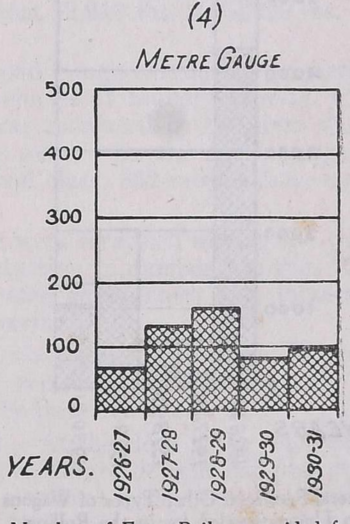
Number of Locomotives provided for in the Rolling Stock Programme.



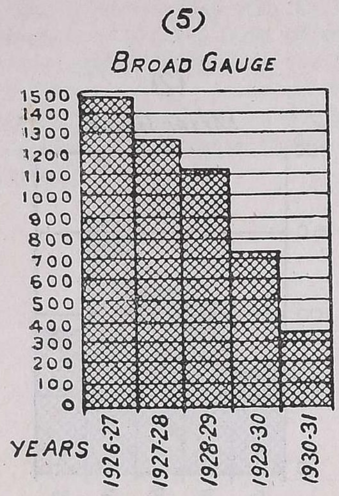
Number of Locomotives provided for in the Rolling Stock Programme.



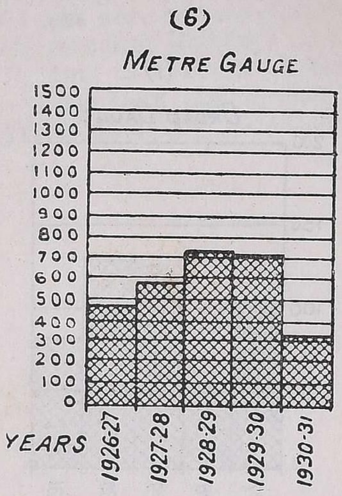
Number of Extra Boilers provided for in the Rolling Stock Programme.



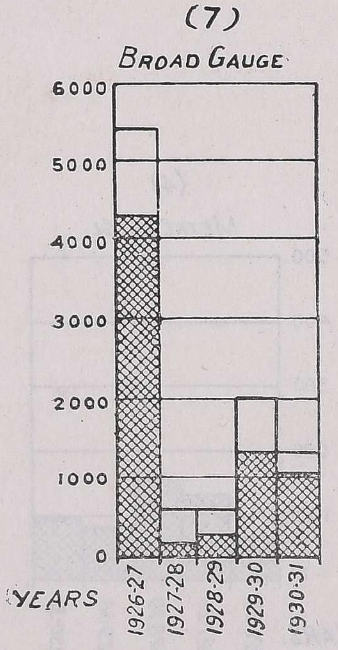
Number of Extra Boilers provided for in the Rolling Stock Programme.



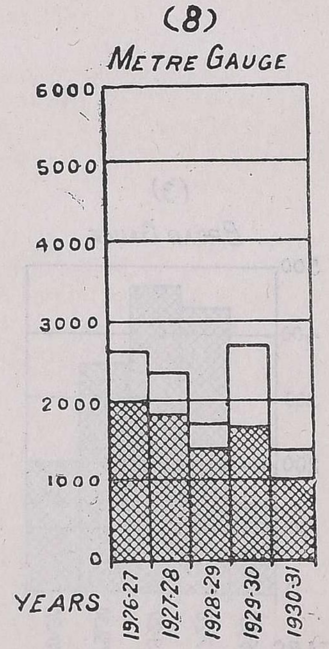
Number of Coaching Stock Units provided for in the Rolling Stock Programme.



Number of Coaching Stock Units provided for in the Rolling Stock Programme.



General Service & Other Types of Wagons in Units provided for in the Rolling Stock Programme.



General Service and Other Types of Wagons in Units provided for in the Rolling Stock Programme.

General Service Wagons shown thus

Other Types shown thus

CHAPTER V.

ROLLING STOCK AND MATERIALS.

58. Additions to equipment.—During the year the rolling stock, including arrears brought forward from previous years, was on order for broad and metre gauge railways respectively as follows :—

Item.	*Broad Gauge.*	*Metre Gauge.*
Locomotives	190	174
Coaching Stock	1,318	990
Goods Stock	1,674	3,376

Those actually placed on the line by the end of the year were as follows :—

Item.	*Broad Gauge.*	*Metre Gauge.*
Locomotives	174	85
Coaching Stock	892	465
Goods Stock	1,492	2,410

59. Coaching and goods stock are stated in terms of four-wheelers, a bogie being reckoned as two four-wheelers. These figures do not represent the actual net additions to rolling stock as they include stock built in replacement of existing engines and vehicles which had reached the end of their useful life.

Engines.—158 broad gauge and 46 metre gauge locomotives were replaced during the year by new ones and in addition 16 broad gauge and 39 metre gauge new locomotives were added to the stock. A further steady rise is apparent in the average tractive effort per engine which rose from 23,536 lbs. to 24,424 lbs. on the broad gauge and from 13,943 lbs. to 14,260 lbs. on the metre gauge.

Coaching vehicles.—975 old type broad gauge carriages were scrapped, 892 of them being replaced by modern vehicles of higher capacity, with the result that the seating accommodation was increased by 644 first class, 168 second class and 1,316 intermediate class seats. On the metre gauge, there was an increase of 235 first class, 731 second class, 852 intermediate class and 9,303 third class seats.

Wagons.—2,213 broad gauge wagons were scrapped during the year and 1,492 of them were replaced. The net reduction in number was thus 721 and in tonnage capacity 2,286 tons. The metre gauge stock was increased by 1,406 in number and 31,306 in tons of capacity.

60. The graphs reproduced indicate the total number of locomotives, boilers, carriages and wagons, including replacements, provided for in the programmes of Class I railways during the past five years.

61. Standardisation of locomotives.—At the close of the year, 660 locomotives constructed to the Indian Railway Standard designs had been received and placed in service, and a further 121 standard locomotives were on order. The locomotives now in service represent 16 different types (nine 5 ft. 6 ins. gauge, five 3 ft. $3\frac{3}{8}$ ins. gauge and two 2 ft. 6 ins. gauge) and include 5 ft. 6 ins. gauge 4-cylinder express passenger locomotives (XS) and 5 ft. 6 ins. and 3 ft. $3\frac{3}{8}$ ins. gauge tank locomotives for short branch line passenger traffic (XT and YT) which made their first appearance in India during the year.

The Locomotive Standards Committee met twice, in April and December, 1930. In addition to dealing with various minor modifications in design which further experience with the running of the standard locomotives has shown to be necessary, the Committee prepared diagrams for two further alternative

standard types of light metre gauge locomotive to replace the existing standard YF type which has not proved satisfactory in service and made various recommendations in regard to the application of grease lubrication to locomotives, the preliminary trials of which show a considerable economy over oil lubrication.

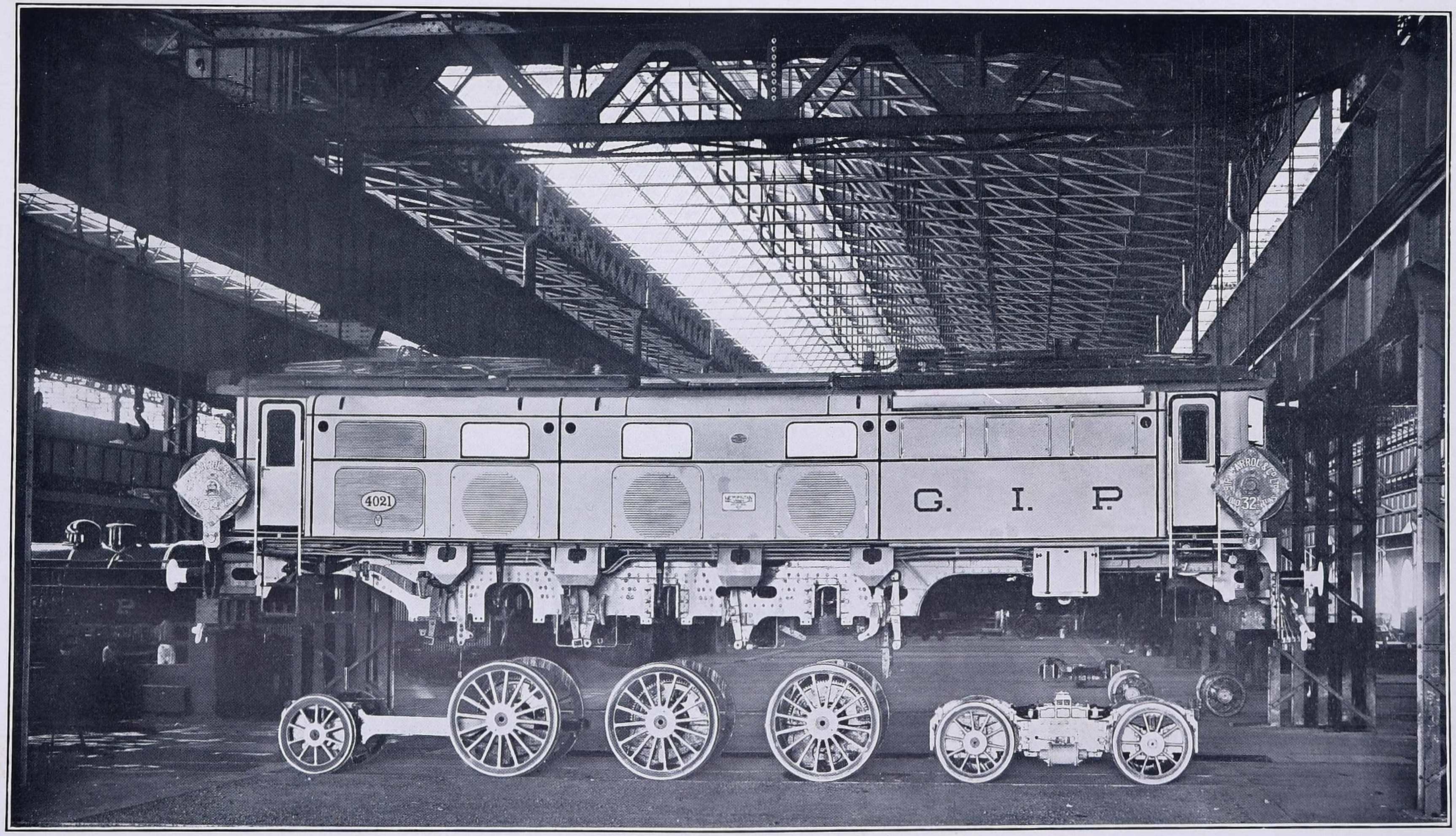
62. Standardisation of Rolling Stock.—The total number of standard underframes and wagons in service at the close of year was (expressed in terms of 4-wheeled units) 2,132 and 5,829 respectively, of which 2,066 underframe units and 5,243 wagon units were built in India. During the year orders were placed for a further 592 standard underframe units and 3,932 wagon units, the whole to be built in India. The Carriage and Wagon Standards Committee met once during the year, *viz.*, in November 1930, the principal subjects dealt with by the Committee being specifications for steel coaching bodies and improved buffers for 4-wheeled and bogie stock and the standardisation of electrical equipment. The Indian Railway Standard vacuum brake part drawings were completed and published during the year and a start was made with the preparation of Indian Railway Standard underframe, body and wagon part drawings which, it was expected, would be completed and published during 1931-32. Detailed drawings of higher capacity open and covered broad gauge wagons with 19-ton axle loads (OX and CX) were prepared and orders for the construction of six sample wagons of each type placed with Indian firms.

63. Stores Standards Committee.—The Committee on Standards and Specifications met once in February, 1931, and provisionally approved of 15 additional specifications. 150 Indian Railway Standard specifications were drafted of which 95 were published. It was expected that the publication of all specifications hitherto adopted by the Committee would be effected during the year 1931-32, and the present arrears of work wiped off.

64. Supply of rails and fish plates from indigenous sources.—During the year orders amounting to approximately 92,418 tons of rails and 3,241 tons of fishplates were placed with the Tata Iron and Steel Company. In this tonnage is included an order for 11,814 tons of 115 lbs. section rails for the East Indian and Eastern Bengal Railways. A representation having been received from the Tata Iron and Steel Company concerning the paucity of rail orders received by them during the past few years, it was decided to pay an enhanced price of Rs. 20 per ton for rails of 50—100 lbs. sections and Rs. 10 per ton for 115 lbs. rails ordered for Indian Railways during 1930-31 and 1931-32.

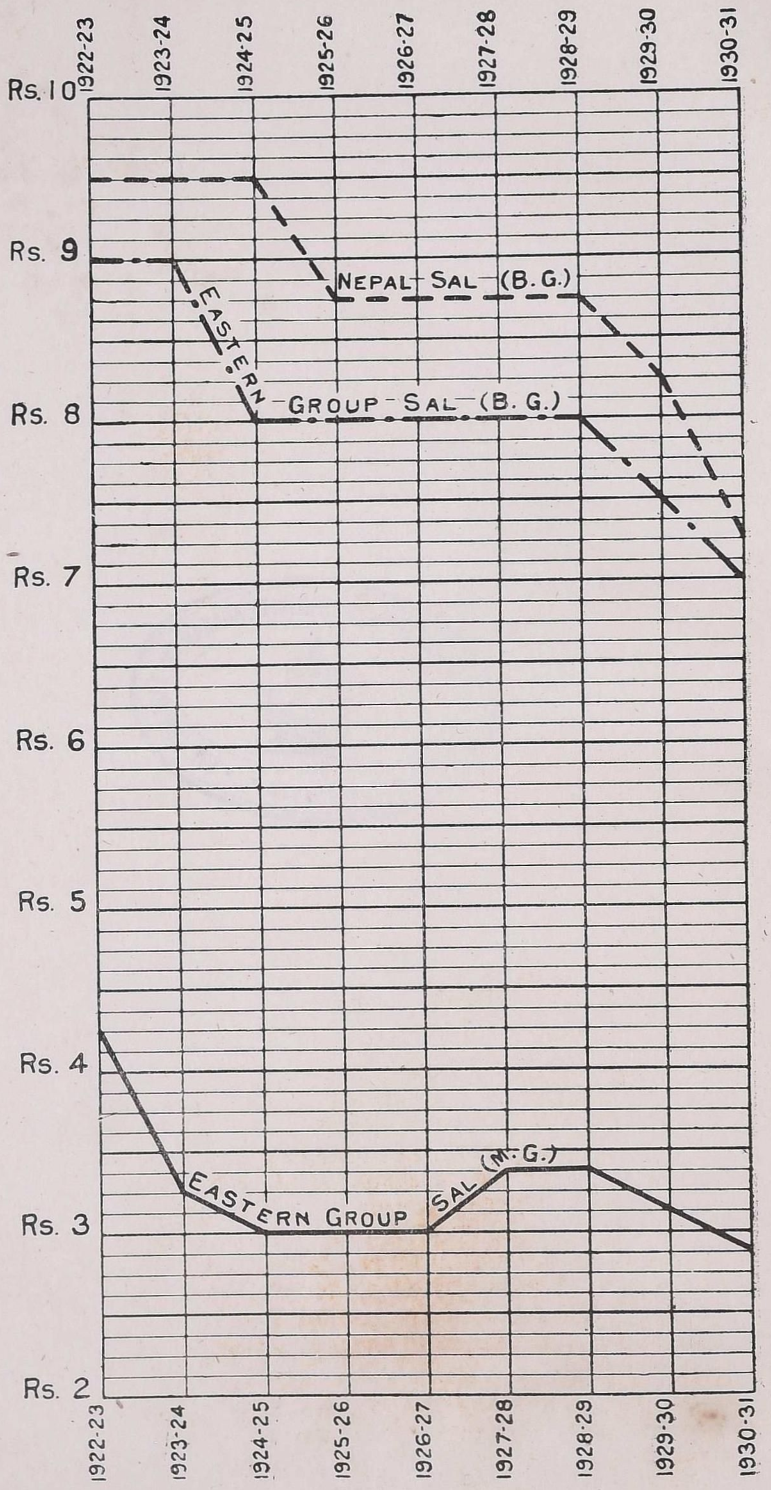
65. Development of the use of indigenous timbers for carriage building.—The Sturtevant kilns for seasoning timber, which were erected at Lillooah in 1929-30, came into full working during the year. The officer-in-charge of the Seasoning Section at the Forest Research Institute, Dehra Dun, was lent by the Inspector General of Forests and under his supervision several improvements were made in the circulation system of the kilns. As difficulty had been experienced in connection with the purchase and identification of some of the lesser known timbers which are under trial, arrangements were made with the Forest Department throughout India and Burma for their officers to place orders for, and inspect and identify the timber required for 1931-32, and in consequence considerable economy in purchase was effected.

A new type of panel, composed of veneers built up on a laminated core, was successfully prepared at the Forest Research Institute, Dehra Dun, and two sets of 76 panels each, were supplied to the Great Indian Peninsula Railway, one set of toon (*cedrela toona*) and one set of poon (*calophyllum spp*), for use in two dining cars. It is believed that these panels will not warp, swell or contract under changing climatic conditions to anything like the same extent as solid panels. Mechanical tests prove the laminated construction to be considerably stronger than solid panels of equal thickness and the cost is about the same.



Electric passenger locomotive lifted by 120-ton crane, Parel Shops.

AVERAGE PRICE PAID FOR SAL SLEEPERS FOR BROAD GAUGE AND METRE GAUGE TRACK.



During the year several railways placed trial orders for 3-ply boards made of veneers of Indian timbers in order to compare them with the imported article. The price of timber generally fell during the year, especially in Rangoon. A noticeable result of this has been increased purchases of Burma teak in the form of planks at rates which compare favourably with those paid for squares. A tendency to make increased use of Indian Teak and indigenous timbers was observed, especially on the North Western Railway and the East Indian Railway. The total amount spent on timber, other than sleepers, by Class I Railways (excluding His Exalted Highness the Nizam's State Railway and the Jodhpur Railway) during the year was Rs. 84·50 lakhs.

66. Wooden Sleeper Purchase Organisation.—The total number of wooden sleepers purchased during 1930-31 was 15·04 lakhs broad gauge and 11·47 lakhs metre gauge, a drop of 7½ lakhs and 2 lakhs respectively compared with the previous year. The decrease is due to shortage of funds and absence of construction, and to the fact that considerable stocks were in hand at the opening of the year.

The percentage of the various types of sleepers on Class I Railways are as follows :—

	Wood.	Cast Iron.	Steel.	Other kinds.
Broad gauge—				
1928-29	45·8	38·7	15·1	0·4
1929-30	44·2	38·6	16·8	0·4
	– 1·6	– 0·1	+ 1·7	...
Metre gauge—				
1928-29	74·5	6·7	18·6	0·2
1929-30	73·3	6·5	20·0	0·2
	– 1·2	– 0·2	+ 1·4	...

No wooden sleepers were imported from abroad during the year. A fresh arrangement was made for sal sleepers from the forests of Nepal for about 5 lakhs of sleepers, over a period of 3 years, at a reduced price of Rs. 7-8, a reduction of 12 annas per sleeper since the last arrangement and Rs. 2 since 1924-25. In the Northern Group the price of sleepers fell by March 1931 to deodar Rs. 4-14, kail Rs. 3, chir Rs. 2-14 and fir Rs. 2-4 for the small quantities required on annual contracts. These prices compare with the 5 years contracts, which expire on 30th June 1933, as follows : deodar Rs. 6-8, chir Rs. 3-8 and fir Rs. 3-4. In the Eastern Group Rs. 7 was paid for sal broad gauge compared with Rs. 7-8 in the previous year.

At Dhilwan, on the North Western Railway, over 4 lakhs of softwood coniferous sleepers were treated with 50 per cent. creosote and 50 per cent. liquid fuel at an approximate cost of Rs. 1-9 per sleeper compared with Rs. 1-13-9 last year. An experiment in charcoal manufacture from sleeper ends proved successful. As the consumption of charcoal on the North Western Railway is about 300 tons a year and the supply can now be made at Rs. 1-3 per maund, compared with Rs. 2-8 per maund f.o.r. Karachi, a total annual saving of about Rs. 30,0000 is expected. At Naharkatya, on the Assam Bengal Railway, 2¾ lakhs of Hollong and Hollock sleepers were treated with the same mixture as above. The cost of treating these metre gauge sleepers fell from Rs. 1-3 last year to 13 annas this year.

The total amount spent on wooden sleepers on Class I Railways (excluding His Exalted Highness the Nizam's State Railway and the Jodhpur Railway) was Rs. 1·75 crores.

The fifth annual meeting of the Sleeper Pool Committee, with the Director, Civil Engineering, Railway Board, as chairman, and the Timber Advisory Officer with the Railway Board, as secretary, was held at Simla on the 4th July, 1930.

67. Value of railway materials purchased.—The value of stores purchased by Class I Railways (excluding His Exalted Highness the Nizam's State and Jodhpur Railways which are mainly the property of Indian States) shows a large decrease from Rs. 30·06 crores in 1929-30 to Rs. 23·75 crores in 1930-31. The principal decreases, as indicated below, were under rolling stock (Rs. 247 lakhs), tools and stores (Rs. 146 lakhs), and permanent way (Rs. 150 lakhs). Of the total decrease of Rs. 6·31 crores, Rs. 4·66 crores were accounted for under ' imported materials ' and Rs. 1·65 crores under ' indigenous materials ', the decrease under the latter being mainly under permanent way (Rs. 103 lakhs), rolling stock (66 lakhs), and tools and stores (Rs. 43 lakhs). Against this the head ' other materials ' recorded an increase of Rs. 50 lakhs.

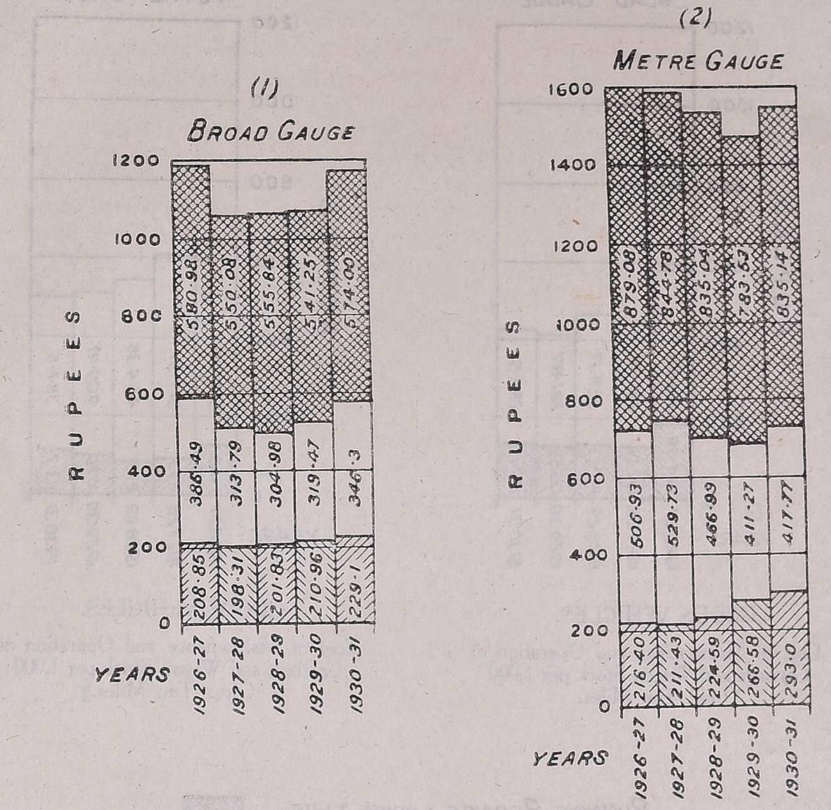
Heading.	Value of imported materials.			Value of indigenous materials.	Total purchases **1930-31.**	Total purchases 1929-30.
	Purchased direct.	Purchased through Agents in India.	Total imported materials.			
	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.
Rolling-stock	4·29	1·18	5·47	0·97	**6·44**	8·91
Tools and stores	0·37	2·67	3·04	2·64	**5·68**	7·14
Permanent-way	0·10	0·09	0·19	3·86	**4·05**	5·55
Electric plant	0·60	0·78	1·38	0·02	**1·40**	2·16
Building and station materials and fencing	0·16	0·24	0·40	0·17	**0·57**	0·57
Bridge work	0·15	0·06	0·21	0·11	**0·32**	0·53
Workshop machinery	0·14	0·32	0·46	...	**0·46**	0·66
Engineer's plant	0·09	0·12	0·21	0·02	**0·23**	0·44
Other materials*	...	0·21	0·21	4·39	**4·60**	4·10
Total	5·90	5·67	11·57	12·18	**23·75**	30·06

* Other materials consist of coal and coke, stone, bricks, lime and ballast, etc.

68. Purchase of Stores by Railways through the Indian Stores Department.—The value of ' textile and leather ' and ' engineering ' hardware and miscellaneous stores purchased by railways through the Indian Stores Department during the year under review amounted to Rs. 38·24 and Rs. 89·74 lakhs respectively as against Rs. 41·17 and Rs. 109·28 lakhs during the previous year. The reduction during the year 1930-31 is due chiefly to the general fall in market prices, and retrenchment by railways in the purchase of stores.

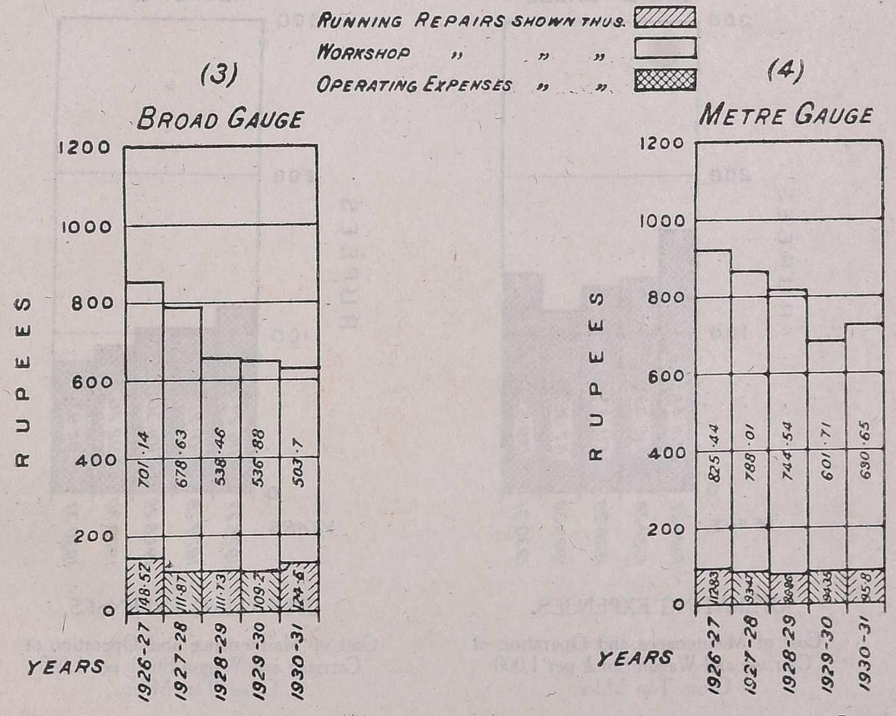
69. Cost of maintenance and supply of locomotive power and cost of maintenance and operation of carriage and wagon stock.—The results obtained during the year under review and the four previous years in regard to the cost of maintenance and supply of locomotive power under the three major heads of accounts (running repairs, workshop repairs and operating expenses) and also of the cost of maintenance and operation of carriage and wagon stock, per 1,000 gross ton miles for both broad and metre gauges of the Class I railways in India, are reproduced in graphic form.

COST OF MAINTENANCE AND SUPPLY OF LOCOMOTIVE POWER PER 1,000 GROSS TON MILES.



COACHING VEHICLES.

COST OF MAINTENANCE AND OPERATION OF CARRIAGE AND WAGON STOCK PER 1,000 GROSS TON MILES.



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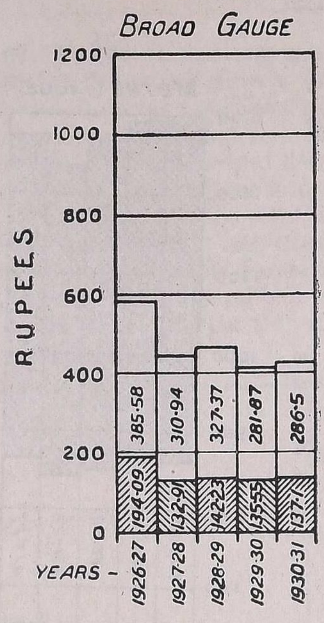
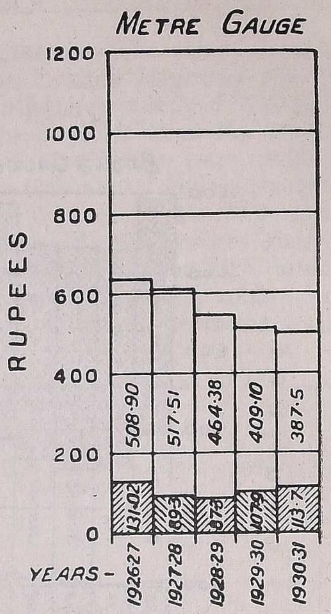


GOODS VEHICLES.

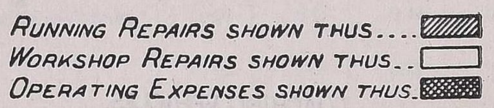
Cost of Maintenance and Operation of Carriage and Wagon Stock per 1,000 Gross Ton Miles.

(6)



GOODS VEHICLES.

Cost of Maintenance and Operation of Carriage and Wagon Stock per 1,000 Gross Ton Miles.



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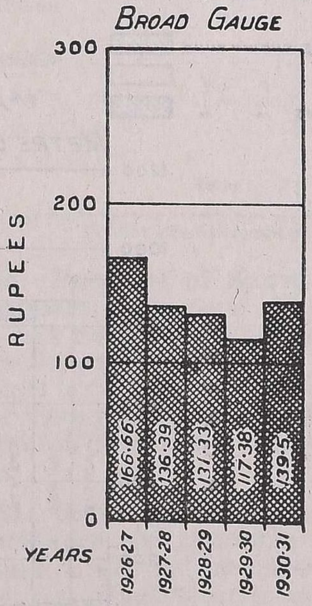
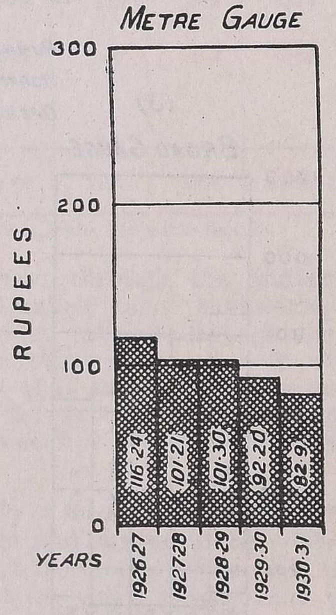


OPERATING EXPENSES.

Cost of Maintenance and Operation of Carriage and Wagon Stock per 1,000 Gross Ton Miles.

(8)

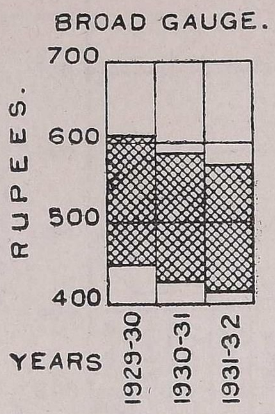


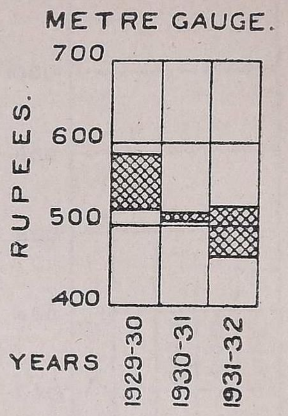
OPERATING EXPENSES.

Cost of Maintenance and Operation of Carriage and Wagon Stock per 1,000 Gross Ton Miles.

MAXIMUM & MINIMUM PRICES PER TON IN RUPEES FOR INDIAN RAILWAY STANDARD LOCOMOTIVES & ROLLING STOCK.

I.R.S. GENERAL SERVICE WAGONS.

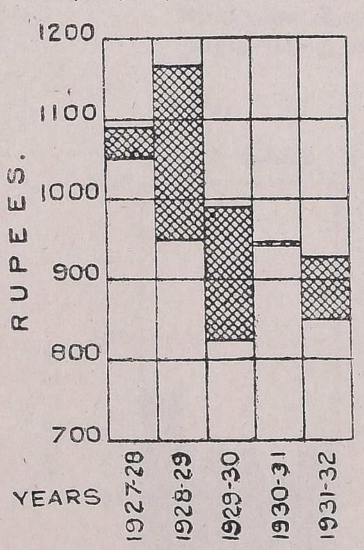


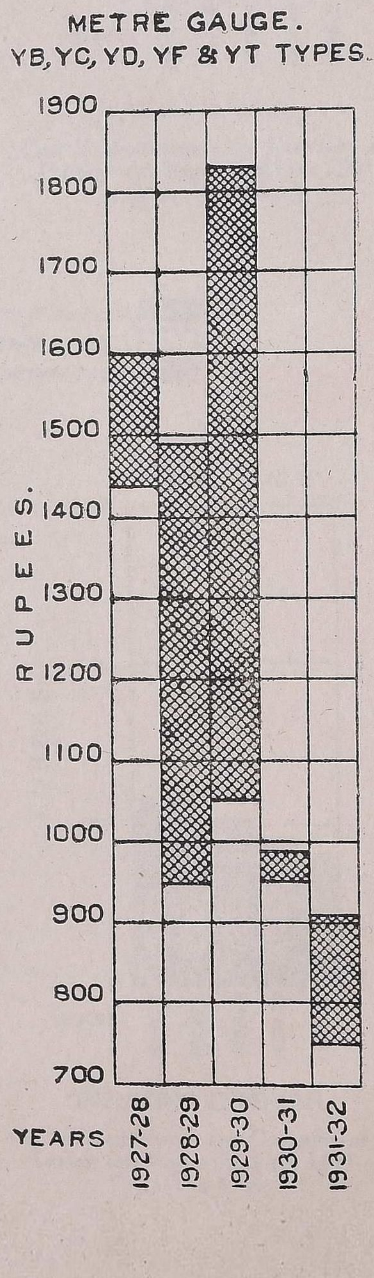


I.R.S. LOCOMOTIVES.

BROAD GAUGE.

XA, XB, XC, XD & E TYPES.





70. Number, price and weight of Indian Railway Standard Locomotives ordered since 1927—

Type.	Weight Empty engine and tender in tons.	Number ordered.	Price Rs. each.
Broad Gauge.			
1927			
XB	105·00	2	1,13,824
XD	120·09	5	1,26,500
XF	98·33	6	1,10,850
XG	116·45	3	1,37,625
1928			
XA	82·77	20	96,300
XB	103·53	24	1,13,824
XC	123·25	28	1,17,280
XD	120·41	11	1,26,500
XE	143·40	16	1,44,708
XS	131·23	4	2,01,496
1929			
XA	82·77	39	81,450
XB	103·53	23	1,02,030
XC	123·25	32	1,08,900
XD	120·41	6	1,19,408
XE	143·40	28	1,17,750
XT	32·05	18	45,800† 40,578‡
1930			
XA	82·77	27	78,000
1931			
XA	82·77	17	69,988
XB	104·00	16*	96,200
Metre Gauge.			
1927			
YB	61·91	6	89,534
YC	66·90	7	1,07,100
YD	67·30	34	98,520
1928			
YB	61·91	18	81,040
YD	67·24	27	78,080
YD	67·24	17	99,820
YF	43·49	22	41,024
1929			
YB	61·91	26	66,900
YD	67·24	33	72,000
YF	43·49	40	45,770
YT	19·98	2	42,375* 37,562†
1930			
YD	67·24	12	66,000
YF	43·49	5	46,920§ 41,283‡
1931			
YC	66·90	10	50,669
YF	43·49	3	39,150

* (10 without tenders.)
† Dismantled.
‡ Fully erected.
§ Dismantled for packing.

CHAPTER VI.

STAFF.

71. Number of staff.—The total number of employees on all Indian Railways and in the office of the Railway Board and other offices subordinate thereto (excluding staff employed on construction) at the end of the year 1930-31 was 781,130 as compared with 817,733 at the end of 1929-30. The increase in route mileage during the same period was 557 miles. The following table shows the number of employees by communities on the 31st March, 1930 and 1931. A similar statement showing details by railways is given as Appendix C of Volume II of the Report by the Railway Board on Indian Railways for 1930-31.

Date.	Europeans.	Statutory Indians.					Grand Total.
		Hindus.	Muslims.	Anglo-Indians and domiciled Europeans.	Other classes.	Total.	
31st March, 1930 .	4,981*	579,040*	182,349*	14,647*	36,716*	812,752*	817,733*
31st March, 1931 .	**4,799**	**553,851**	**172,321**	**14,350**	**35,809**	**776,331**	**781,130**

* The figures with asterisk represent revised figures due to minor corrections made in the figures published last year.

72. Cost of staff.—The following statement shows the number and cost of all staff, superior and subordinate (including labourers), permanent and temporary, open line and construction, employed on Class I Railways during the years 1929-30 and 1930-31. Contractors' labour is not included.

Railway Systems.	Year.	Number of staff on 31st March.						Cost of staff.		
		Open Line.			Construction.					
		Gazetted Officers.	Non-gazetted employees.	Total.	Gazetted Officers.	Non-gazetted employees.	Total.	Gazetted Officers.	Non-gazetted employees.	Total.
1	2	3	4	5	6	7	8	9	10	11
								Rs.	Rs.	Rs.
Assam Bengal	1930	70	16,227	16,297	8	1,121	1,129	11,61,849	65,34,045	76,95,894
	1931	**69**	**16,335**	**16,404**	**4**	**683**	**687**	**11,30,552**	**63,77,651**	**75,08,203**
Bengal and North-Western.	1930	69	27,785	27,854*	3	153	156	10,76,347	66,99,959	77,76,306
	1931	**68**	**27,719**	**27,787**	**3**	**156**	**159**	**10,97,247**	**68,19,530**	**79,16,777**
Bengal Nagpur	1930	208	72,048	72,256*	12	1,144	1,156	38,13,652	3,08,21,417	3,46,35,069*
	1931	**211**	**71,129**	**71,340**	**9**	**1,130**	**1,139**	**37,80,454**	**3,03,43,143**	**3,41,23,597**
Bombay, Baroda and Central India.	1930	177	73,969	74,146*	11	1,785	1,796*	33,65,895	4,27,60,592	4,61,26,487*
	1931	**183**	**71,684**	**71,867**	**5**	**677**	**682**	**31,15,118**	**4,37,74,214**	**4,68,89,332**
Burma . . .	1930	117	27,713	27,830*	9	668	677*	20,12,588	1,46,69,247	1,66,81,835
	1931	**115**	**26,987**	**27,102**	**4**	**138**	**142**	**19,90,816**	**1,38,44,735**	**1,58,35,551**
Eastern Bengal	1930	130	55,816	55,946*	7	1,812	1,819*	20,56,757	2,50,46,499	2,71,03,256*
	1931	**130**	**53,627**	**53,757**	**5**	**1,312**	**1,317**	**22,73,477**	**2,45,19,374**	**2,67,92,851**

Note 1.—The figures with asterisk represent revised figures for 1929-30 due to changes made by the railway administrations in the figures published last year.

Note 2.—The figures of cost include the salaries and wages of staff, bonus contributions to the provident fund, gratuities, overtime allowances and all other allowances which are of the nature of extra pay and which are not granted to meet some definite expense incurred in the performance of duty, such as travelling allowance.

Railway Systems.	Year.	NUMBER OF STAFF ON 31ST MARCH.						COST OF STAFF.		
		OPEN LINE.			CONSTRUCTION.					
		Gazetted Officers.	Non-gazetted employees.	TOTAL.	Gazetted Officers.	Non-gazetted employees.	TOTAL.	Gazetted Officers.	Non-gazette d employees.	TOTAL.
1	2	3	4	5	6	7	8	9	10	11
								Rs.	Rs.	Rs.
East Indian	1930	315	149,968	150,283	23	3,341	3,364	64,63,959	6,48,87,716	7,13,51,675*
	1931	**324**	**141,618**	**141,942**	**13**	**2,991**	**3,004**	**54,06,910**	**6,91,37,759**	**7,45,44,669**
Great Indian Peninsula.	1930	242	112,685	112,927	3	81	84	50,72,451	5,61,11,329	6,11,83,780
	1931	**228**	**96,115**	**96,343**	**2**	**58**	**60**	**51,06,089**	**5,49,80,342**	**6,00,86,431**
Jodhpur	1930	21	7,943	7,964*	1	425	426	3,25,254	23,96,363	27,21,617*
	1931	**21**	**7,539**	**7,560**	**1**	**72**	**73**	**3,25,848**	**24,85,226**	**28,11,074**
Madras and Southern Mahratta.	1930	147	53,768	53,915	10	2,018	2,028	26,58,618	2,27,05,535	2,53,64,153
	1931	**147**	**53,096**	**53,243**	**3**	**1,983**	**1,986**	**25,70,787**	**2,41,44,676**	**2,67,15,463**
Nizam's State	1930	49	15,923	15,972	3	131	134	9,45,605	55,82,492	65,28,097
	1931	**48**	**17,777**	**17,825**	**5**	**425**	**430**	**9,05,676**	**57,66,543**	**66,72,219**
North Western	1930	288	123,270	123,558*	25	1,865	1,890*	46,51,000	6,37,50,000	6,84,01,000*
	1931	**297**	**115,213**	**115,510**	**26**	**3,981**	**4,007**	**44,64,000**	**6,29,68,000**	**6,74,32,000**
Rohilkund and Kumaon.	1930	13	6,144	6,157*	*Nil*	*Nil*	*Nil*	2,22,924	14,69,448	16,92,372*
	1931	**16**	**6,130**	**6,146**	*Nil*	*Nil*	*Nil*	**2,12,926**	**15,12,163**	**17,25,089**
South Indian	1930	132	38,665	38,797*	17	790	807	22,34,005	1,74,57,608	1,96,91,613
	1931	**136**	**39,149**	**39,285**	**13**	**437**	**450**	**21,47,695**	**1,80,19,269**	**2,01,66,964**
TOTAL	1930	1,978	781,924	783,902*	132	15,334	15,466*	3,60,60,904	36,08,92,250	39,69,53,154
	1931	**1,993**	**744,118**	**746,111**	**93**	**14,043**	**14,136**	**3,45,27,595**	**36,46,92,625**	**39,92,20,220**

NOTE 1.—The figures with asterisk represent revised figures for 1929-30 due to changes made by the railway administrations in the figures published last year.

NOTE 2.—The figures of cost include the salaries and wages of staff, bonus contributions to the provident fund, gratuities, overtime allowances and all other allowances which are of the nature of extra pay and which are not granted to meet some definite expense incurred in the performance of duty, such as travelling allowance.

The above statement shows that the total number of staff on open line on 31st March, 1931, was less by 37,791 than on 31st March, 1930. The total number of staff on construction was less by 1,330. The greater part of the reduction in numbers was however made shortly before the close of the year and its effect is therefore not reflected in the total cost of staff, which in the year 1930-31 was Rs. 22,67,066 greater than in the year 1929-30.

73. Indianisation.—*Recruitment of superior officers.—State-managed Railways.*—(1) The importance of railways in the life of the country and the wide scope of employment which they offer naturally makes the "Indianisation" of the railway services a matter which arouses great public interest. In the last report a reference was made to the decision, taken in 1925 as a result of the recommendations of the Lee Commission, to take steps to advance recruitment in India to 75 per cent. of the total number of vacancies in the Superior Services and to the special measures adopted to encourage the recruitment of Indians for the Transportation (Power) and Mechanical Engineering Department where owing to the lack of qualified candidates in the country the recruitment prior to 1929-30 was practically confined to Europeans. As a result of similar measures taken during the year under review, two Indians have been recruited for these departments through the High Commissioner for India and the Public Service Commission had been requested to arrange for the recruitment of three more in India.

74. The following table gives a summary of the permanent recruitment made for gazetted ranks in the various departments on State-managed Railways during the year under review.

Department.	No. of vacancies which occurred in previous years not filled in those years remaining to be filled.	No. of new appointments created during the year.	No. of vacancies which occurred during the year.	No. of appointments abolished during the year.	No. of net vacancies to be filled.	No. of vacancies not filled up during the year.	No. of vacancies actually filled.	Filled by					
									Statutory Indians.				
								Europeans.	Hindus.	Muslims.	Anglo-Indians and Domiciled Europeans.	Other classes.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Agency	1	...	...	...	1	1	...	...	...	...	...	...	...
2. Accounts	...	...	2	...	2	...	2	1	...	...	1	...	1
3. Engineering	6	...	10	...	16	2	14	2	7	3	1	1	12
4. Transportation and Commercial (Traffic).	14	...	13	...	27	2	25	4	7	1	12	1	21
5. Transportation (Power) and Mechanical Engineering.	1	...	9	...	10	...	10	2	2	1	4	1	8
6. Stores Department	3	...	2	...	5	2	3	...	1	...	1	1	3
7. Other Departments	...	1	5	...	6	...	6	3	3	...	...	...	3
8. Total 1930-31	25	1	41	...	67	7	60	12	20	5	19	4	48
8. Total 1929-30	25	...	41	...	66	25	41	12	19	4	3	3	29
9. Percentage of Europeans to number of vacancies filled. 1930-31	20·0												
9. Percentage of Europeans to number of vacancies filled. 1929-30	29·3												
10. Percentage of Statutory Indians to number of vacancies filled. 1930-31	80·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	70·7												

NOTE 1.—It is usual to publish this statement in two parts, one showing the permanent vacancies, and the other the total vacancies, whether permanent or temporary, filled during the year. As during the year under report no temporary appointments were made, the statement is published in one part.

NOTE 2.—Since the primary object of this statement is to show the number of vacancies and how they were filled, an officer, whose recruitment was arranged for during a particular year, has been regarded as having been appointed during that year, even if he happened to join during the ensuing year. The actual recruitment was finally made mostly in July and August 1931 and includes appointments by promotion made for the year 1931-32 which will be detailed in the next report.

NOTE 3.—The question of amending the form of this statement in consultation with the Central Advisory Council for Railways is under consideration. Pending such amendment, the additions made to the cadres, mainly on account of leave and deputation reserves, with effect from the 1st March 1931, have been disregarded. This does not however affect the figures in columns 8 to 14.

75. It will be noticed from the statement that during the year under review the total number of permanent appointments made in the gazetted ranks on State-managed Railways was 60 of which 12 went to Europeans and 48 to Statutory Indians, of whom 20 were Hindus, 5 Muslims, 19 Anglo-Indians and domiciled Europeans and 4 of other communities. The ratio of Indian to European recruitment was 80 to 20 in respect of permanent appointments. The percentage of Indian recruitment in the various departments was :—

Department.	Per cent.
Accounts	50·0
Engineering	85·7
Transportation and Commercial (Traffic)	84·0
Transportation (Power) and Mechanical Engineering	80·0
Stores Department	100·0
Other Departments	50·0

Among Indian recruits the proportionate recruitment from each community was as shown below :—

	Per cent.
Hindus	41·7
Muslims	10·4
Anglo-Indians and domiciled Europeans	39·6
Other classes	8·3

The figures in the statement represent recruitment made for gazetted ranks. They exclude promotions from the Lower Gazetted Services to the Superior Services, but on the other hand include appointments made by promotion from the subordinate ranks to the Lower Gazetted Services. In order to work out the recruitment made for the Superior Services it would be necessary to include the former and exclude the latter and on this basis the total recruitment for the Superior Services comes to 49 made up as under—

Europeans	12
Hindus	20
Muslims	5
Anglo-Indians and domiciled Europeans	8
Other classes	4
TOTAL	49

On the basis of these figures the ratio of Indian recruitment for the Superior Services amounts to 75·5 per cent.

The above figures do not include the appointment of 12 apprentices, all of Asiatic domicile, recruited in India for the Transportation (Power) and Mechanical Engineering Departments during the year under review. The communities to which these apprentices belong are as follows :—

Hindus	7
Muslim	1
Anglo-Indians and domiciled Europeans	2
Other communities	2

76. *Company-managed Railways.*—(1) The progress made in the direction of Indianising the Superior Services on Company-managed Railways falls short of that on State-managed Railways. The Companies have agreed to fall in line with the policy of Government as indicated in paragraph 73 but have not yet been able, owing to various reasons, to advance Indian recruitment up to 75 per cent. of the total vacancies. The South Indian Railway alone has so far been able to reach this percentage. During the year under report the Companies were reminded of their obligation to fill as quickly as possible 75 per cent. of all vacancies in all the departments taken together by persons of Indian domicile. They were also advised :—

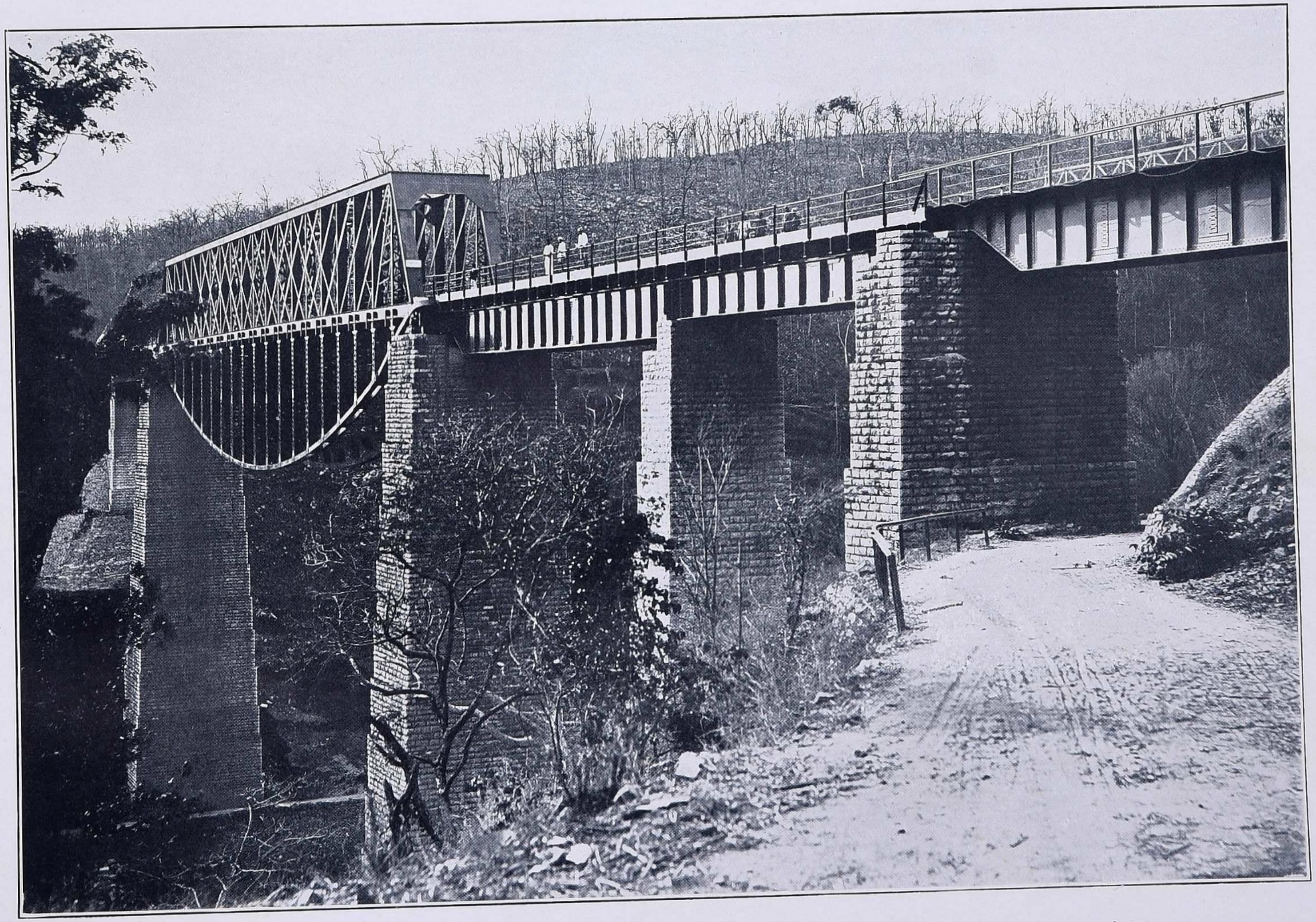
(*i*) that judging by the experience of the last 5 years it appeared that the only department in which there was some difficulty in obtaining suitable recruits in India was the Mechanical Department and that the Railway Board would be prepared to assist them in obtaining suitable candidates for other departments in case they experienced any difficulty;

(*ii*) that with regard to the Mechanical Department the Railway Board would be prepared to place at their disposal the overflow of the apprentices on State-managed Railways who will complete their training in 1933 and of the candidates who are declared by the Public Service Commission to be qualified for appointment to this department, after meeting the requirements of the State-managed Railways; and

(*iii*) that in any case, if, owing to any reasons, *e.g.*, insufficiency of suitable candidates for the Mechanical Department or the absorption of deserving temporary engineers in the permanent Engineering establishment, the recruitment in any department fell short of the 75 per cent. ratio, it was essential that the deficit should be made good by recruiting a larger number of Indians in the other departments to the utmost extent possible in order to give effect to the policy of recruiting 75 per cent. of the total number of vacancies in the Railway Department as far as possible;

(*iv*) that while it was recognised that it might be difficult for a small railway to work up to the limit of 75 per cent. in any particular year, it was essential that the average over a series of 3 or 4 years should conform to the 75 per cent. ratio.

(2) The following tables give a summary of the recruitment made for the superior services on Company-managed Railways during the year under review : Part I relates to permanent appointments and Part II includes both permanent and temporary appointments. A detailed statement by individual railways will be found in Appendix G of this report.



Dhorabhavi Bridge, Guntakal-Bezwada Section—250′ span strengthened by underhung bowstring.

PART I.

Statement showing the number of **permanent** *vacancies filled in the Superior establishments on (Class I) Company-managed Railways, excluding His Exalted Highness the Nizam's State and Jodhpur Railways during 1930-31.*

Department.	No. of vacancies which occurred in previous years not filled in those years remaining to be filled.	No. of new appointments created during the year.	No. of vacancies which occurred during the year.	No. of appointments abolished during the year.	No. of net vacancies to be filled.	No. of vacancies not filled up during the year.	No. of vacancies actually filled.	Filled by: Europeans.	Statutory Indians: Hindus.	Muslims.	Anglo-Indians and domiciled Europeans.	Other classes.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Agency	1	2	...	...	3	1	2	2	...	...	...	...	...
2. Accounts	...	2	6	...	8	3	5	1	4	...	...	...	4
3. Engineering	12	15	18	3	42	13	29	11	14	3	1	...	18
4. Transportation (Traffic) Commercial.	5	15	5	...	25	12	13	2	6	3	...	2	11
5. Mechanical	4	3	13	1	19	3	16	11	4	...	...	1	5
6. Stores Department	1	1	...	...	2	1	1	...	1	...	...	...	1
7. Other Departments	2	1	6	...	9	3	6	5	1	...	...	...	1
8. Total 1930-31	25	39	48	4	108	36	72	32	30	6	1	3	40
8. Total 1929-30	39*	13	38*	6	84*	24*	60*	30	22	1*	4	3	30*
9. Percentage of Europeans to number of vacancies filled. 1930-31	44·4												
9. Percentage of Europeans to number of vacancies filled. 1929-30	50·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1930-31	55·6												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	50·0												

PART II.

Statement showing the **total** *number of vacancies filled in the Superior estblishments on] (Class I) Company-managed Railways, excluding His Exalted Highness the Nizam's State and Jodhpur Railways during 1930-31.*

Department.	No. of vacancies which occurred in previous years not filled in those years remaining to be filled.	No. of new appointments created during the year.	No. of vacancies which occurred during the year.	No. of appointments abolished during the year.	No. of net vacancies to be filled.	No. of vacancies not filled up during the year.	No. of vacancies actually filled.	Filled by: Europeans.	Statutory Indians: Hindus.	Muslims.	Anglo-Indians and domiciled Europeans.	Other classes.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Agency	1	2	...	...	3	1	2	2	...	...	...	...	...
2. Accounts	1	2	6	1	8	3	5	1	4	...	...	...	4
3. Engineering	21	21	25	30	37	16	21	4	11	3	3	...	17
4. Transportation (Traffic) and Commercial.	6	15	5	1	25	11	14	2	6	2	2	2	12
5. Mechanical	4	3	13	1	19	3	16	11	4	...	...	1	5
6. Stores Department	2	2	...	1	3	2	1	...	1	...	...	...	1
7. Other Departments	4	1	6	1	10	4	6	5	1	...	...	...	1
8. Total 1930-31	39	46	55	35	105	40	65	25	27	5	5	3	40
8. Total 1929-30	51*	22*	48*	24*	97*	35*	62*	25*	25*	1*	7	4	37
9. Percentage of Europeans to number of vacancies filled. 1930-31	38·5												
9. Percentage of Europeans to number of vacancies filled. 1929-30	40·3*												
10. Percentage of Statutory Indians to number of vacancies filled. 1930-31	61·5												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	59·7*												

* Revised figures.

77. It will be observed from Statement Part I that during the year under review the total number of appointments made in the superior service on Company-managed Railways was 72 of which 32 went to Europeans and 40 to Statutory Indians, of whom 30 were Hindus, 1 Anglo-Indian and domiciled European, 6 Muslims and 3 of other communities. As, however, a number of posts were abolished during the year, the net total number of vacancies filled, permanent or temporary, was 65, of which 25 went to Europeans and 40 to Statutory Indians, of whom 27 were Hindus, 5 Muslims, 5 Anglo-Indians and domiciled Europeans and 3 of other communities. The ratio of Indian to European recruitment was 55·6 to 44·4 in respect of permanent appointments and 61·5 to 38·5 in respect of all appointments, whether permanent or temporary. The percentage of Indian recruitment in the principal departments was :—

	Permanent appointments.	Total appointments, permanent or temporary.
	Per cent.	Per cent.
Engineering	62	81
Transportation (Traffic) and Commercial	84·6	86
Transportation (Power) and Mechanical Engineering	31	31

Among Indian recruits the proportionate recruitment from each community was as shown below :—

	Permanent vacancies.	Total vacancies.
	Per cent.	Per cent.
Hindus	75	67·5
Muslims	15	12·5
Anglo-Indians and domiciled Europeans	2·5	12·5
Other classes	7·5	7·5

78. *Senior subordinate grades.*—Steps have been taken to ensure that the recruitment of covenanted subordinates from the United Kingdom for service on State-managed Railways is made only for certain specialist posts such as jig and tool draftsmen, construction signal inspectors, etc., and then too when it is known, *e.g.*, after inviting applications in India, that a suitable candidate in India cannot be found. The attention of Companies has also been drawn to the desirability of recruiting all Upper Subordinates in India as far as possible and of confining recruitment from England only to those cases in which specialists are required and men of suitable qualifications are not forthcoming in India.

79. *Review of the progress made since 1925.*—The statement on pages 55 and 56 will throw further light on the progress made in Indianisation and in the recruitment of the various communities both on State-managed and Company-managed Railways since 1925, as reflected in the relative strength of Europeans and Statutory Indians belonging to the various communities : Part I relates to superior staff and Part II to subordinate staff on scales of pay rising to Rs. 250 and over.

80. It will be observed that the Indian element in the superior services has risen from 28·02 per cent. on State-managed and 17·74 per cent. on Company-managed Railways in 1925 to 37·68 per cent. on State-managed and 31·90 per cent. on Company-managed Railways in 1931 by a corresponding reduc-

PART I.

Statement of gazetted officers on State-managed Railways and Officers of corresponding rank on Company-managed (Class I) Railways (excluding H. E. H. the Nizam's State and Jodhpur Railways) on the 1st April 1925, 1st April 1930 and 1st April 1931.

Name of the Railway.	1st April 1925.							§ 1st April 1930.							1st April 1931.						
	Euro-peans.	Statutory Indians.					Total number on the Railway (columns 2 *plus* 7.)	Euro-peans.	Statutory Indians.					Total number on the Railway (columns 9 *plus* 14.)	Euro-peans.	Statutory Indians.					Total number on the Railway (colums 16 *plus* 21.)
		Hindus.	Muslims.	*Anglo-Indians.	* Other classes.	Total.			Hindus.	Muslims.	Anglo-Indians and domiciled Europeans.	Other classes.	Total.			Hindus.	Muslims.	Anglo-Indians and domiciled Europeans.	Other classes.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
State-managed Railways.																					
Burma	90	3	..	..	12	15	105	101	7	1	10	7	25	126	96	5	1	10	7	23	119
Eastern Bengal	79	31	3	..	12	46	125	76	39	7	11	4	61	137	77	36	7	11	3	57	134
East Indian	227	49	12	..	26	87	314	199	74	14	43	8	139	338	194	77	15	35	7	134	328
Great Indian Peninsula	175	18	5	..	23	46	221	185	32	6	11	11	60	245	179	26	8	8	9	51	230
North Western	192	60	13	..	28	101	293	169	90	21	15	18	144	313	159	102	24	16	17	159	318
Railway Board and Miscellaneous Offices	59	8	3	..	14	25	84	64	15	6	10	4	35	99	54	14	4	15	2	35	89
TOTAL	822	169	36	..	115	320	1,142	794	257	55	100	52	464	1,258	759	260	59	95	45	459	1,218
Company-managed Railways.																					
Assam Bengal	52	6	1	..	2	9	61	47	16	4	10	1	31	78	43	16	4	9	1	30	73
Bengal Nagpur	170	27	5	..	19	51	221	153	38	6	20	2	66	219	147	42	7	16	5	70	217
Bengal and North-Western	55	3	1	..	..	4	59	63	6	1	2	..	9	72	59	5	3	2	..	10	69
Bombay, Baroda and Central India	159	14	..	..	21	35	194	136	26	2	10	14	52	188	135	30	2	5	13	50	185
Madras and Southern Mahratta	122	15	1	..	6	22	144	115	31	..	6	5	42	157	107	32	..	6	5	43	150
Rohilkund and Kumaon	12	1	..	..	..	1	13	10	2	1	..	..	3	13	12	2	2	..	..	4	16
South Indian	93	17	1	..	3	21	114	91	46	2	6	4	58	149	82	52	3	10	2	67	149
TOTAL	663	83	9	..	51	143	806	615	165	16	54	26	261	876	585	179	21	48	26	274	859
GRAND TOTAL	1,485	252	45	..	166	463	1,948	1,409	422	71	154	78	725	2,134	1,344	439	80	143	71	733	2,077

Statement showing the percentages of the relative strength of Europeans and Indians of various communities.

			1925	§ 1930	1931
Europeans	..	State-managed Railways.	71·98	63·10	**62·32**
		Company-managed Railways.	82·26	70·21	**68·10**
		TOTAL	76·23	66·03	**64·71**
Statutory Indians	Hindus	State-managed Railways.	14·80	20·43	**21·35**
		Company-managed Railways.	10·30	18·84	**20·84**
		TOTAL	12·94	19·77	**21·14**
	Muslims	State-managed Railways.	3·15	4·37	**4·84**
		Company-managed Railways.	1·12	1·82	**2·44**
		TOTAL	2·31	3·32	**3·85**
Statutory Indians —*concld.*	Anglo- Indians and domiciled Europeans.	State-managed Railways.	*	7·96	**7·80**
		Company-managed Railways.	*	6·16	**5·59**
		TOTAL	*	7·22	**6·88**
	Other classes	State-managed Railways.	*10·07	4·14	**3·69**
		Company-managed Railways.	*6·32	2·97	**3·03**
		TOTAL	*8·52	3·75	**3·42**
	TOTAL	State-managed Railways.	28·02	36·88	**37·68**
		Company-managed Railways.	17·74	29·79	**31·90**
		TOTAL	23·77	33·97	**35·29**

* Anglo-Indians included in other classes in 1925. § Revised figures.

PART II.

Statement of subordinates on scales of pay rising to Rs. 250 per mensem and over on Class I Railways (excluding H. E. H. the Nizam's State and Jodhpur Railways) on the 1st April 1925, 1st April 1930 and 1st April 1931.

Name of the Railway.	1st April 1925.							§ 1st April 1930.							1st April 1931.						
	Europeans.	Statutory Indians.					Total number on the Railway (columns 2 plus 7).	Europeans.	Statutory Indians.					Total number on the Railway (columns 9 plus 14).	Europeans.	Statutory Indians.					Total number on the Railway (columns 16 plus 21).
		Hindus.	Muslims.	†Anglo-Indians.	†Other Classes.	Total.			Hindus.	Muslims.	Anglo-Indians and domiciled Europeans.	Other Classes.	Total.			Hindus.	Muslims.	Anglo-Indians and domiciled Europeans.	Other Classes.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
State-managed Railways.																					
Burma	28	83	9	..	198	290	318	23	107	10	270	59	446	469	25	102	10	259	63	434	459
Eastern Bengal	143	106	5	..	163	274	417	107	170	15	181	11	377	484	104	183	15	179	9	386	490
East Indian	859	300	25	..	789	1,114	1,973	612	497	53	1,014	12	1,576	2,188	602	494	50	921	21	1,486	2,088
Great Indian Peninsula	286	125	29	..	803	957	1,243	284	239	42	788	196	1,265	1,549	309	232	40	737	185	1,194	1,503
North Western	401	328	123	..	378	829	1,230	391	378	180	365	143	1,066	1,457	403	366	187	351	147	1,051	1,454
Railway Board and miscellaneous offices	*	*	*	*	*	*	*	5	153	22	29	20	224	229	4	145	22	27	21	215	219
TOTAL	1,717	942	191	..	2,331	3,464	5,181	1,422	1,544	322	2,647	441	4,954	6,376	1,447	1,522	324	2,474	446	4,766	6,213
Company-managed Railways.																					
Assam Bengal	22	23	4	..	46	73	95	20	30	2	40	7	79	99	20	31	3	34	8	76	96
Bengal Nagpur	333	140	13	..	403	556	889	256	194	15	379	25	613	869	237	188	16	434	23	661	898
Bengal and North-Western	31	15	2	..	59	76	107	27	16	6	62	1	85	112	28	15	7	67	1	90	118
Bombay, Baroda and Central India	155	253	25	..	506	784	939	142	295	34	392	237	958	1,100	134	310	36	393	187	926	1,060
Madras and Southern Mahratta	85	31	1	..	173	205	290	90	51	1	177	12	241	331	89	49	..	190	12	251	340
Rohilkund and Kumaon	6	5	1	..	13	19	25	6	4	2	12	1	19	25	6	3	1	13	1	18	24
South Indian	63	73	2	..	158	233	296	45	96	7	177	9	289	334	46	94	4	169	8	275	321
TOTAL	695	540	48	..	1,358	1,946	2,641	586	686	67	1,239	292	2,284	2,870	560	690	67	1,300	240	2,297	2,857
GRAND TOTAL	2,412	1,482	239	..	3,689	5,410	7,822	2,008	2,230	389	3,886	733	7,238	9,246	2,007	2,212	391	3,774	686	7,063	9,070

Statement showing the percentages of the relative strength of Europeans and Indians of various communities.

			1925.	1930. §	1931.
Europeans		State-managed Railways.	33·14	22·30	**23·29**
		Company-managed Railways.	26·32	20·42	**19·60**
		TOTAL	30·84	21·72	**22·13**
Statutory Indians	Hindus	State-managed Railways.	18·18	24·22	**24·50**
		Company-managed Railways.	20·44	23·90	**24·15**
		TOTAL	18·95	24·12	**24·39**
	Muslims	State-managed Railways.	3·69	5·05	**5·21**
		Company-managed Railways.	1·82	2·33	**2·35**
		TOTAL	3·05	4·20	**4·31**
Statutory Indians—*concld.*	Anglo-Indians and domiciled Europeans.	State-managed Railways.	†	41·51	**39·82**
		Company-managed Railways.	†	43·17	**45·50**
		TOTAL	†	42·03	**41·61**
	Other classes	State-managed Railways.	†44·99	6·92	**7·18**
		Company-managed Railways.	†51·42	10·18	**8·40**
		TOTAL	†47·16	7·93	**7·56**
	Total	State-managed Railways.	66·86	77·70	**76·71**
		Company-managed Railways.	73·68	79·58	**80·40**
		TOTAL	69·16	78·28	**77·87**

* Not available. † Anglo-Indians included in "Other classes" in 1925. § Revised figures.

tion in the European element. Among the Indians the percentage increase by communities in 1931 as compared with 1925 is shown below :—

—	State-managed.		Company-managed.	
	Percentages.		Percentages.	
	1925.	1931.	1925.	1931.
Hindus	14·80	21·35	10·30	20·84
Muslims	3·15	4·84	1·12	2·44
Anglo-Indians and others	10·07	11·49	6·32	8·62

81. Turning to the subordinate staff the corresponding figures are as under :—

—	State-managed.		Company-managed.	
	Percentages.		Percentages.	
	1925.	1931.	1925.	1931.
Europeans	33·14	23·29	26·32	19·60
Statutory Indians :—				
Hindus	18·18	24·50	20·44	24·15
Muslims	3·69	5·21	1·82	2·35
Anglo-Indians and others	44·99	47·00	51·42	53·90
Total Statutory Indians	66·86	76·71	73·68	80·40

82. Re-organisation of superior cadres of State-managed Railways.—During 1929 the Railway Board prepared a scheme for the re-organisation of the cadres of the superior services on State-managed Railways. The principal features were the institution of a separate cadre for each of the State-managed railways; the provision of a reserve for leave and deputation; the abolition of the Provincial Engineering Service and the Local Traffic Service; and the constitution of a new Lower Gazetted Service in all branches. The approval of the Secretary of State was received in February 1930, and considerable progress has already been made towards giving effect to the re-organisation.

The Provincial Engineering Service and the Local Traffic Service, which have now been abolished, were created in 1921 on the lines of the Provincial Engineering Service which was constituted about that time in the Public Works Department. These services were filled partly by promotion of subordinates but mainly by direct recruitment. The fact that the Provincial Engineering Service and the Lower Traffic Service were to a large extent recruited from candidates possessing similar qualifications to candidates for the superior services but were paid at a lower rate and had a limited scope of advancement although their duties were practically the same as those of junior officers of the superior services, gave rise to considerable discontent. After consultation with the Central Advisory Council for Railways it was

decided that the Provincial Engineering service and the Local Traffic service should be abolished and replaced by a Lower Gazetted service which will be filled by the promotion of selected subordinates.

83. Rules for the recruitment and training of subordinate staff.—During the year under report the Railway Board drew up rules for the recruitment and training of workshop apprentices and of other subordinate staff generally, calculated to ensure the adoption of systematic methods of recruitment and training of the staff compatible with the local conditions and requirements on each railway. The rules relating to workshop apprentices cover apprentice mechanics and trade apprentices who after training qualify for appointments as supervising subordinates and skilled artizans respectively. These rules were discussed with the Central Advisory Council in July 1930 and were issued for adoption on State-managed Railways with effect from the recruitment to be made in 1931, a copy being simultaneously forwarded to Company-managed Railways to enable them to carry out such revision in their practice and procedure as may be necessary.

The rules for the recruitment and training of the subordinate staff were not finally issued until the commencement of the following year.

84. Training of Staff.—(1) *Railway Staff College, Dehra Dun.*—As stated in the last year's report, the Railway Staff College at Dehra Dun started to function in January 1930, but it was formally opened on the 3rd April 1930 by His Excellency Sir Malcolm Hailey, Governor of the United Provinces.

The college is primarily meant for the training of officers, but to increase its scope of usefulness it was decided to transfer the refresher courses for senior subordinates from the Chandausi School to the Railway Staff College during 1930 as an experimental measure. The experiment proved successful and the courses continued to be held at the College during 1931.

During the first part of the calendar year the college deals with courses for probationers in the Transportation (Traffic) and Commercial Departments and the Indian Railway Service of Engineers, junior officers and senior subordinates. There is a recess from about the middle of May to the middle of June during which time the instructors are detailed to visit railways with the object of acquiring an up-to-date knowledge on the spot of any innovations which may have been introduced on railways. The second half of the year is generally devoted to senior officers' courses, fuel economy courses, and courses for junior officers and senior subordinates.

The following statement shows the courses held during the year under report and the average attendance at each :—

Courses.	Number and duration of courses.	Average attendance.
Senior subordinates' refresher courses .	9 courses lasting 1 month each .	25
Selected senior subordinates' courses .	2 ,, ,, 6 weeks ,, .	19
Fuel economy courses . .	1 ,, ,, 2 ,, ,, .	29
Transportation and Commercial probationers' course	2 ,, ,, 3 months and 2 months respectively.	18
Probationary Civil Engineers' courses .	2 ,, ,, 6 weeks each .	13
Junior officers' refresher courses . .	4 ,, ,, 6 ,, ,, .	13
Senior officers' refresher courses . .	2 ,, ,, 6 ,, ,, .	10

During the calendar year 1930 the number of student-days amounted to 14,923 and of this number about 80 per cent. were contributed by State Railways.

(2) *Area Schools*.—A brief resume of the activities during the year of the area schools engaged in the training of subordinate staff is given below :—

Railway School of Transportation, Chandausi (*East Indian Railway*).—The School was mainly occupied in the training of new staff to replace wastage and to comply with the requirements of the Hours of Employment Regulations. There were also promotion and refresher courses. The total number of student-days in the year amounted to 37,615.

Asansol Training School (*East Indian Railway*).—This school mainly deals with promotion and refresher courses for the subordinate locomotive running staff and the carriage and wagon staff and switchmen. The transportation classes were transferred to Chandausi in August 1930. The proximity of the locomotive sheds, Asansol, where almost all types of locomotives are headquartered offers excellent facilities for making the courses practical and effective.

The student-days in the year totalled 11,113. During the year an extra lecture room and additional models were added to the school.

Railway School of Transportation, Bina (*Great Indian Peninsula Railway*).—This School is meant for the training of the transportation staff. During the year 9 refresher courses were held. Additions were made to the models in the locomotive room and a new $2\frac{1}{2}''$ gauge was laid in the model room, where the interlocking of all signals was also completed. The school has been temporarily closed down with effect from the 17th February 1931 due to financial stringency.

Walton Training School, Kot Lakhpat (*North Western Railway*).—The school continues to do useful work and the total number of students attending it during the year was 1,718 as against 1,722 in the previous year. During the year under report a number of improvements and additions were made to the school.

(3) *Technical School, Jamalpur*.—The East Indian Railway Technical School at Jamalpur, located within a few minutes' walk from the locomotive workshops at that place, fills an important role in the scheme of recruitment and training of officers for the Transportation (Power) and Mechanical Engineering Departments of State Railways. Apart from apprentice mechanics and trade apprentices trained at Jamalpur as in certain other railway workshops, with a view to appointment as supervising subordinates and artizans respectively, the school imparted courses of training to 39 special class apprentices during the year under report. Such apprentices are recruited through the Public Service Commission—of the 39 under training 12 were recruited during the year under report—with a view to appointment to superior service in the Transportation (Power) and Mechanical Departments. At Jamalpur they undergo a three-year course of practical and theoretical training followed by another year in workshops or in the running department in the case of apprentices selected for the Mechanical Engineering or the Transportation (Power) Department respectively. On the satisfactory completion of 4 years' training, selected apprentices, to the extent of the vacancies available, are sent to the United Kingdom for a further two years' course in workshop practice or locomotive running work as the case may be. Apprentices who have successfully completed their training in the United Kingdom are appointed as officers on probation to the Transportation (Power) and Mechanical Engineering Departments. The scheme will begin to provide fully qualified officers for the Departments in 1933, four apprentices having proceeded to the United Kingdom, on completion of their 4 years' training in India, in February 1931.

Attached to the Technical School at Jamalpur is a hostel for special class apprentices under the supervision of a superintendent and a matron. Each apprentice is provided with a separate bed room. The general accommodation includes a common dining hall, billiard room and two study rooms. The hostel is equipped with modern sanitary arrangements, shower and ordinary baths. A ground adjoining the hostel is provided for cricket, football and

hockey and three tennis courts are laid out in the hostel grounds as well as a gymnasium.

During the year under report 12 bed rooms were added to the hostel which now provides accommodation for 48 apprentices.

85. Improvements in the service conditions of the staff.—The year under review witnessed considerable progress in the carrying out of the various schemes referred to in the last report for the amelioration of the service conditions of the staff, more particularly of the lower paid employees. A brief account of the progress made is given below.

(1) *Revision of the scales of pay of lower paid employees.*—As stated in the last report a comprehensive examination of the wages of the lower paid employees of railways was commenced in May 1929 and a revision sanctioned for the Eastern Bengal and Great Indian Peninsula Railways with effect from the 1st April 1930 at an estimated recurring cost of Rs. 4½ lakhs and 5 lakhs per annum respectively. The year under review was marked by considerable progress in the direction of extending the scheme of revision to other railways.

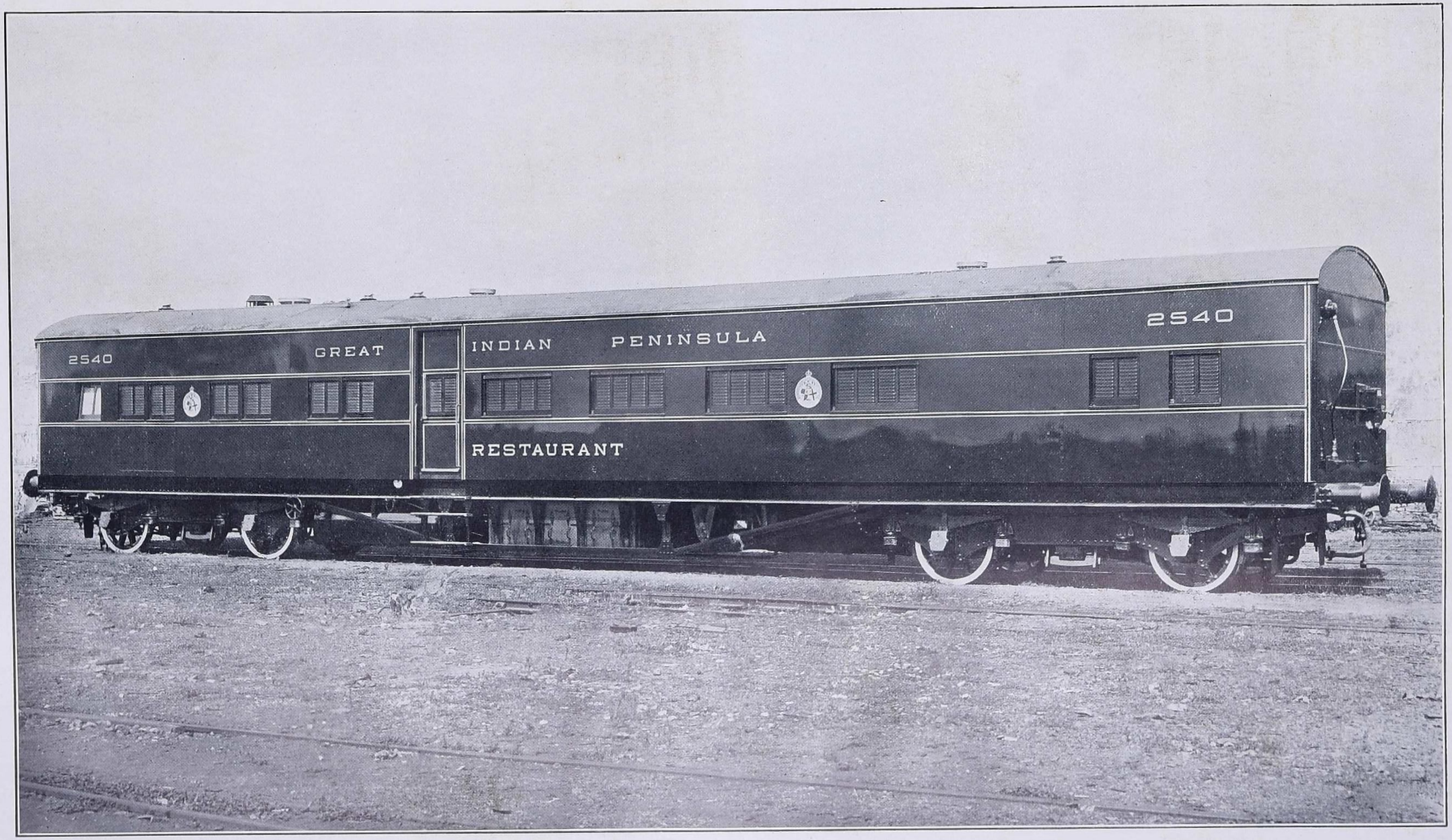
In May 1929 proposals had been received for the revision of pay of persons in inferior service and of the lower paid subordinate staff of the Traffic, Locomotive, Engineering and Medical Departments of the Assam Bengal Railway. These were examined in the light of the principles adopted in framing the scheme of revision on the Eastern Bengal Railway and sanctioned with back effect from the 1st April 1929 at a total estimated expenditure of Rs. 1,18,296 per annum of which 82·5 per cent. was on account of increases to persons in inferior service.

In June 1930 the Agent, Madras and Southern Mahratta Railway, submitted proposals for the revision of pay of the lower subordinate, menial and workshop staff. After certain alterations made in consultation with him to bring the proposals in line with the policy adopted by the Railway Board with regard to the revision of wages on State-managed Railways, they were sanctioned in July 1930 at an estimated annual cost of Rs. 4 lakhs. This sanction was followed 3 months later by a revision of the scales of pay of the clerical establishments employed in the headquarters and district offices of the Madras and Southern Mahratta Railway at an estimated annual cost of Rs. 60,107.

In May 1930 an investigation was also made into the wages of the lower paid employees of the North Western Railway. The Railway Board having considered the report and recommendations of the Agent, came to the conclusion that the wages given on the North Western Railway compared favourably with those in force on other railways and did not call for improvement.

While this investigation was in progress on the North Western Railway, the Railway Board in May 1930 deputed an officer to assist the Agent of the East Indian Railway in framing proposals for the revision of pay of the lower paid employees of that railway and as a result of his enquiry proposals were received from the Agent estimated to cost a recurring expenditure of Rs. 13·2 lakhs per annum. An important feature of the scheme was the introduction of co-ordinated rates, with local allowances in relatively expensive areas, both on the East Indian and Oudh and Rohilkhand Railway sections and in the various branches. With a few minor modifications these proposals were sanctioned with effect from the 1st September 1930 at an estimated cost of Rs. 11 lakhs per annum. This estimate represents the ultimate recurring expenditure while the immediate extra expenditure is estimated to be Rs. 8 lakhs per annum.

At the request of the Agent of the East Indian Railway the Railway Board deputed the same officer again in July 1930 to undertake an investigation into the rates of pay of the workshop staff of the East Indian Railway under the direction of the Agent. The investigation was completed on the 1st August 1930 when the Agent submitted proposals for the revision of pay of the staff employed in the mechanical and block signal shops, estimated to cost



Restaurant car to seat 32 passengers.

Rs. 5·77 lakhs per annum. These proposals were sanctioned, subject to a minor modification, in September 1930, at an estimated cost of Rs. 5·5 lakhs per annum.

During the year under review an investigation was also made by an officer on special duty into the conditions of service of the employees of the printing presses of the East Indian Railway and the Eastern Bengal Railway and as a result the following changes were sanctioned in October 1930 :—

(*i*) Employees to be rated in future on a suitable monthly rate of pay based on 200 hours of work in the month and initial pay in the new scales to be fixed by the Agent.

(*ii*) To give good workmen the opportunity of earning increased wages, a system of piece-work rating to be introduced concurrently with the introduction of the revised rates of pay for specified classes of employees.

(*iii*) Overtime to be avoided as far as possible and to be paid for, when worked, at one and a quarter times the normal rate of pay.

This revision is estimated eventually to cost Rs. 14,000 per annum, but the immediate cost would be Rs. 48,000 in the first year.

(2) *Hours of employment and periods of rest.*—In the last report a reference was made to the Indian Railways Amendment Act, 1930, enacted with the object of giving effect to the statutory obligations incurred by the Government of India by the ratification of the Washington and Geneva Conventions relating to a 60-hour week for India and a weekly rest day respectively. It was also stated that considerable progress had been made by the North Western and East Indian Railways in the application of the provisions of these conventions and that proposals were in hand to appoint officers on special duty on the remaining Class I Railways, with a special officer attached to the Railway Board, in order that the amendments to the Indian Railways Act, effected by the new Act, should be applied with as little delay as possible.

In April 1930 an experienced officer was placed on special duty with the Railway Board to direct and co-ordinate the working out of the schemes on the various railways through the agency of special officers placed on special duty on individual railways for the purpose. These officers met in conference at Simla during the following month and received detailed instructions regarding the lines on which their work was to be carried out.

The final draft of the rules and instructions prepared to give effect to the Indian Railways (Amendment) Act of 1930 was discussed with a deputation of the All-India Railwaymen's Federation in September 1930 and after a further examination by the Railway Board and the Government of India, the rules were published in the Government of India Gazette, dated the 31st January 1931, thus assuming a statutory character.

The rules will come into force on each Railway from a date to be notified in the Gazette of India. During the year under report arrangements for the introduction of the rules were completed on the North Western and East Indian Railways, while detailed schemes for the entertainment of the additional staff and construction of quarters required with a view to giving effect to the rules were prepared by the other railway administrations of which those relating to the Eastern Bengal, Bombay, Baroda and Central India, South Indian and Madras and Southern Mahratta Railways were finally approved by the Railway Board.

(3) *Revision of Leave Rules.*—As stated in the last report, new leave rules were introduced on the State-managed Railways with effect from the 1st April 1930. These rules were also circulated to the Company-managed Railways and in August 1930 a copy was forwarded to the Secretary of State with a recommendation for the modification of the Fundamental Rules for the guidance of Railway Companies in the light of the new rules introduced on the State-managed Railways. This recommendation was accepted by the Secretary of State in April 1931 and the Company-managed Railways are

taking steps to modify their leave rules to bring them into line with the new State Railway leave rules.

(4) *Acceleration of payments.*—In the last report a reference was made to the scheme adopted on the Moradabad Division of the East Indian Railway for speeding up payments so as to ensure that salaries and allowances were paid within 7 and 14 days respectively of the close of the month to which they relate. During the year under review the scheme was extended to the Howrah Division of the Railway with equally good results. A demonstration was also given at Moradabad in December 1930, which was attended by several officers of the State and Company-managed Railways, with a view to encouraging the various railway administrations to adopt suitable measures for the acceleration of payments.

(5) *Investigation into the system of raising and recovering debits.*—One of the complaints made by the deputation of the All-India Railwaymen's Federation at their meeting with Sir George Rainy in May 1929 was that debits were raised against the staff in trivial matters and without proper enquiry and that in some cases the penalty imposed was excessive and out of all proportion to the offence. The Railway Board addressed a questionnaire to the Agents of the State-managed and Company-managed Railways in December 1929, detailing the main heads under which debits are commonly raised and enquiring as to the policy and procedure followed on each railway in raising and recovering debits, the authorities competent to impose debits and other cognate matters.

The replies were received and examined in October 1930 and in the following month a senior traffic officer was placed on special duty on the East Indian Railway, to make further enquiries and to report on the procedure followed in determining the incidence of liability against individual employees and in fixing the amount of each debit; the arrangements for the delegation of powers to impose debits and the procedure for the disposal of appeals from the staff affected. The report of the officer was received in March 1931 and a meeting of the representatives of the various railway administrations will be held to discuss the report and take necessary action.

86. Welfare.—(1) *Assistance to Railway employees for the education of their children.*—As foreshadowed in the last year's report, provisional rules were issued, with the concurrence of the Central Advisory Council, in September 1930, for the grant of assistance towards the education of their children to State-Railway subordinate employees within certain limits of pay, other than persons in inferior service, and so as to eliminate all racial discrimination for future employees. The salient features of these rules are :—

(*i*) Assistance is limited to those cases where an employee is compelled to send his children to a boarding school away from the station at which he is posted, owing to the absence of a suitable school at such station. This restriction is relaxed to extend the benefits of the scheme to parents having children at an Indian primary school, away from their station, who are compelled owing to the absence of a school hostel to make other arrangements for the boarding of their children.

(*ii*) Assistance is limited to the period covered by the primary and middle standards or the Junior Cambridge classes.

(*iii*) Assistance is admissible to employees on pay not exceeding Rs. 100 per mensem at the rate of half the board and tuition fees; to those on pay exceeding Rs. 100 but not exceeding Rs. 200 per mensem at the rate of one-third of such fees and to those on pay exceeding Rs. 200 but not exceeding Rs. 300 per mensem at the rate of one-fourth of such fees; subject, in all cases, to over-riding maxima of Rs. 15 per mensem per child and Rs. 40 per mensem to any employee.

Towards the end of 1930 a senior officer of the Education Department was placed on special duty to prepare estimates of the cost of the new rules

on the State-managed Railways as well as of the cost as it would be if the rules were liberalised to improve the scale of the assistance and to extend it to the High School Standard and to subordinate employees drawing more than Rs. 300 per mensem and further to report on the administration of schools maintained by the State-managed Railways.

(2) *Relief of indebtedness.*—In his presidential address at the annual meeting of the Indian Railway Conference Association in October 1929, Sir Ernest Jackson touched upon the difficulties of railway labourers in India in the matter of securing loans to meet their financial obligations. A partial remedy for this evil as suggested by Sir Ernest Jackson lay in starting more co-operative credit societies amongst railway employees.

The question is one of vital interest to the staff and will continue to receive the attention of the Railway Board. Meanwhile, a substantial beginning has been made on the East Indian Railway towards giving some relief to the lower paid employees in this direction. As a sequel to the discussion at the meeting of March 1930, the Agent of the East Indian Railway drew up a scheme for the reconstitution of the Indian staff loan fund which had been started in 1910 with grants from the fine fund into a new fund to be called the " Lower Paid Staff Loan Fund ". This scheme has been sanctioned by the Board and while the Indian staff loan fund granted loans only to members of the provident fund drawing pay not exceeding Rs. 60 per mensem, loans from the new fund are paid at reasonable rates of interest to persons who are not members of the provident fund with not less than 3 years permanent service and whose age is not less than 18 and whose pay does not exceed Rs. 25 per mensem at the time the loan is made. No sureties are demanded but to provide against bad debts a reserve fund is formed which is fed by small deductions of about 5 per cent. from the amount lent at the time the loan is advanced. The managing committee of the Fund is assisted by local sub-committees who scrutinise applications from staff for loans and are also responsible for satisfying themselves that loans granted are utilised for the purpose for which they were sanctioned.

It is also gratifying to note the prosperity enjoyed, and good work done by, the Jackson Co-operative Credit Society on the Bombay, Baroda and Central India Railway during the year under report. A noticeable feature of this society is that all employees including men in inferior service are eligible for loans, irrespective of whether they subscribe to the provident fund or not. The rate of interest charged on loans was reduced during the year under review. The general financial position of the society continues to be satisfactory. After laying aside 25 per cent. of net profit for the reserve fund, the society has been able to declare a dividend of 10 per cent. (the maximum admissible under law), and to provide for a substantial contribution of Rs. 10,000 to the staff welfare fund of the railway and for a surplus of Rs. 24,900 to be carried forward to the next year.

(3) *Staff Benefit Fund.*—It was mentioned in the last year's report that the Railway Board had under consideration the question of replacing the fine funds on railways by " Staff Benefit Funds ", the special features of which would be that they shall receive a contribution from the revenue of the railway, in addition to the amount realised from fines and from provident fund bonuses which may be withheld under the rules from subordinate employees, and that the staff shall be associated in the management of the fund and in the control of the objects on which the amount available is expended.

Towards the close of the year under review it was decided, with the approval of the Government of India, to introduce staff benefit funds on the State-managed railways with effect from the 1st April 1931. Under the rules governing it the fund is credited, in addition to fines and forfeited provident fund bonuses of subordinate staff, with a contribution from the revenues of the railway, equal to raise the total receipts to an amount calculated at the rate of one rupee per head of the number of the revenue staff of the railway and it is

administered by a committee consisting of five members, all railway employees, one nominated by the Agent and four elected by the staff and presided over by a senior officer nominated by the Agent. The committee has power to expend money from the fund on objects connected with the education of the staff and their children, institutes and other forms of recreation and amusement for the staff, schemes for sickness or maternity benefits, etc., for the families of the staff, and relief of distress among the members or ex-members of the staff or their families; provided that no part of the fund shall be used for the direct benefit of any gazetted officer of the railway.

The rules also provide that company-managed railways will be permitted to establish a staff benefit fund in lieu of the existing fine fund on similar lines but without fettering their discretion as to the machinery to be set up for the administration of the fund. The new fund has been started with effect from the 1st April 1931 on all the State-managed railways. As regards the Company-managed Railways the Railway Board have sanctioned the adoption of a staff benefit fund on the Assam Bengal Railway. The other Company-managed Railways have agreed generally to the adoption of the fund on their lines.

(4) *Railway Sports.*—The events competed for during the year 1930-31 were football, boxing, tennis, hockey and athletics. Eleven railways entered teams for the inter-railway football tournament. The Eastern Bengal, North Western, Great Indian Peninsula and South Indian Railways won the group tournaments held at Calcutta, Lahore, Bombay and Madras respectively. The semi-finals and the finals were played at Simla. The Eastern Bengal Railway won the tournament for the second time since 1928, the Great Indian Peninsula Railway being the runners-up.

Eight Railways entered teams for the inter-railway boxing tournament which was conducted on a team basis. The Bengal Nagpur, North Western, Bombay, Baroda and Central India and Madras and Southern Mahratta Railways won the respective group tournaments and of them the Bombay, Baroda and Central India and Bengal Nagpur Railways qualified for the final match of the inter-railway tournament which was held in Calcutta and was witnessed by a large number of visitors. His Excellency the Governor of Bengal in giving away the prizes complimented railways on the high standard of sportsmanship exhibited.

Five railways entered teams for the inter-railway tennis tournament which was held in Madras, and the South Indian Railway won the championship, the East Indian Railway, the winners of the previous year, being the runners-up.

Eight railways entered teams for the inter-railway hockey tournament which was held at Delhi. The Bengal Nagpur Railway, were the winners and the East Indian Railway the runners-up. The final match which was very keenly contested attracted a large gathering including several distinguished visitors and high Government officials.

The inter-railway athletic tournament in which seven railways participated was also held in Delhi. The North Western Railway won the athletic championship for the third time in succession, the Bengal Nagpur Railway being the runners-up.

87. Elimination of racial discrimination.—As stated in the last year's report, railway administrations were instructed some time ago to make a complete examination of the position on their lines and to take the necessary steps to remove every trace of racial discrimination where such existed. As a result of the replies received, the position on all railways was comprehensively reviewed by the Railway Board and a memorandum describing the measures taken to eliminate racial discrimination in the entire field of staff matters including recruitment and training, pay and allowances, leave, quarters,

education, free passes, medical attendance, etc., was prepared in February 1931 and copies placed in the library of the Legislative Assembly. Elsewhere in the report a reference has been made to the new rules for the grant of assistance to railway employees towards the education of their children, which shall apply to all future entrants alike, the new rules for the recruitment and training of workshop apprentices which ensure the elimination of racial discrimination and the revised rules for the recruitment and training of the subordinate staff which prescribe *inter alia* the minimum qualification for the various classes of appointments to ensure that no differentiation is made in the qualifications required from Indian and European and Anglo-Indian candidates for employment. It must be realised that it is not practicable to withdraw concessions and privileges from individuals in service who enjoyed them before the policy of the elimination of racial discrimination began to be actively pursued.

88. Meeting with the All-India Railwaymen's Federation.—It was mentioned in the last year's report that at meeting held on the 18th February 1930, between Sir George Rainy and certain representatives of the All-India Railwaymen's Federation who waited on him with a view to the settlement of the Great Indian Peninsula Railway strike, it was agreed on behalf of Government that the Railway Board shall receive a deputation from the Federation twice a year for a free discussion of any grievances or disabilities of railway staff which the federation may wish to represent. It was also agreed to keep the federation informed of all orders of a general nature issued by the Government of India or the Railway Board which affect the service conditions of railway employees.

In pursuance of this arrangement the first half-yearly meeting of the Railway Board with the delegates of the All-India Railwaymen's Federation was held in Simla in June 1930. The meeting lasted for 2 days and the subjects discussed included :—

(1) re-employment of the Great Indian Peninsula Railway strikers;

(2) relations between railways and trade unions;

(3) the new rules regulating the discharge and dismissal of State Railway non-gazetted servants;

(4) the revised leave rules;

(5) revision of the scales of pay of the lower paid employees of the Great Indian Peninsula and Eastern Bengal Railways;

A special meeting was also held on the 1st September 1930 to discuss the draft hours of employment regulations.

The second half-yearly meeting was held in Delhi in December 1930. At the request of the federation the discussion at this meeting was concentrated on the question of the reinstatement of the Great Indian Peninsula Railway strikers.

Copies of the proceedings of these meetings are printed and supplied to the federation. Each one of the subjects discussed is fully considered with a view to taking such action as may be necessary and the federation is from time to time informed of the action taken.

89. Labour position on Indian railways.—*Strikes.*—When the year opened, the strike on the Great Indian Peninsula Railway which had commenced early in February 1930 was practically at an end, though normal working was not completely resumed until the 21st of April 1930. The only strike during the year occurred in the locomotive workshops of the East Indian Railway at Lucknow. This was of short duration. The men ceased work in the afternoon of the 18th June and resumed duty on or before the afternoon of the 23rd of June. The trouble arose from a misunderstanding of the procedure in connection with the introduction of new rules governing leave.

Certain other minor complaints were made and all the grievances represented were investigated and misunderstandings removed.

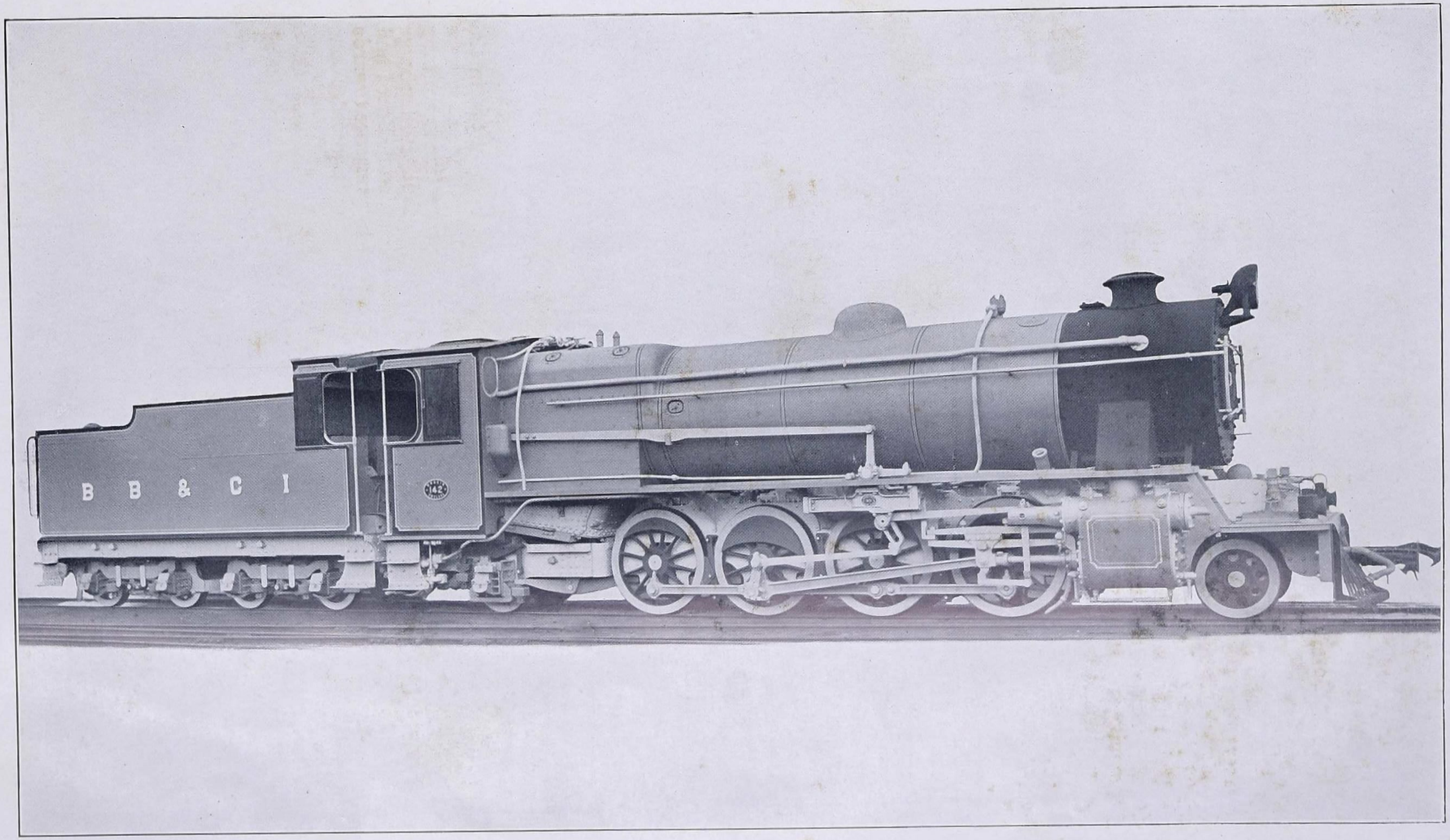
Dispute arising from the transfer of certain workshop staff of the Bombay, Baroda and Central India Railway from Parel to Dohad.—A board of conciliation under the Trade Disputes Act, 1929, was appointed by the Governor General in Council in December 1929, to pave the way for the settlement of a trade dispute which had arisen between the Bombay, Baroda and Central India Railway Administration and the Bombay, Baroda and Central India Railways' employees' Union regarding the terms on which the transfer of certain employees should be made from the railway workshops at Parel to the new workshops at Dohad. The principal point in dispute between the Railway administration and the Union was the proposed reduction by the Railway administration of the wages of workmen accepting transfer to Dohad. The board of conciliation after enquiry into the dispute recommended, *inter alia*, that the railway administration should give up its demand for the proposed reduction and the Government of India authorised the Agent in June 1930 to settle the dispute on the lines recommended by the board of conciliation.

90. Staff retrenchment.—In the summer of 1929, it became apparent that railway earnings were decreasing to an alarming degree and the Railway Board wrote to the Agents of Railways impressing upon them the necessity of taking all possible steps to keep working expenses under control, of ensuring that every avenue of economy was explored and that no new items of expenditure were sanctioned without a clear realisation of their necessity and urgency. This was followed up in July 1930, by a further letter in which railways were instructed to make a special investigation into the methods by which expenditure could be curtailed, and the main directions in which it might, in the opinion of the Railway Board, be found possible to reduce working costs were indicated. Officers were also detailed to see how the office procedure in all departments of the railways could be revised and simplified so as to reduce the expenditure on staff, stationery and forms and to initiate changes in practice which would lower the cost of the repairing and maintaining permanent-way and structures.

Owing to the continued decrease in traffic earnings the Railway Board, in January 1931, summoned the Agents of Class I Railways to Delhi in order to decide upon what further measures would have to be taken to meet the situation. As a result of the meeting with the Agents, the estimates of working expenses of railways for the year 1931-32 were cut down from Rs. 58½ crores to Rs. 53 crores.

By this time, it was realised that it would be impossible to retain the large number of surplus employees who with the continued fall in traffic were becoming more numerous every day and that the drastic reduction in working expenses which had become necessary, would inevitably entail the discharge of workers on a large scale. In the circumstances, the Railway Board and the railway administrations felt it incumbent upon them to commence towards the end of the year an economy campaign involving *inter alia* large reductions in staff.

In order to regulate such discharges in a fair and reasonable manner and to minimise the hardship entailed, orders were issued by the Railway Board early in March 1931 to the Agents of State Railways, with an invitation to Company-managed railways to follow the same procedure, that the least efficient employees should first be discharged, next those of short service and after that those nearing the age of superannuation, and further, that all practical steps should be taken to see that the unfortunate necessity for reducing staff did not operate to the detriment of communities not at present adequately represented in the railway services. A waiting list was also required to be maintained for employees brought under reduction to ensure that no outsider was appointed in any department, division or district of a railway so



YD class locomotive manufactured in Ajmer Workshops.

long as a suitable man was available from such list. These instructions were applied to all classes of staff except:—

(*i*) employees drawing not more than Rs. 30 per mensem in respect of whom the Agents of railways were authorised to prescribe the procedure to be followed; and

(*ii*) workshop employees.

Instructions in respect of workshop employees conceived with a similar purpose and based upon similar principles, were also issued.

CHAPTER VII.

MISCELLANEOUS.

91. Passenger train services and travel amenities.—Consideration of improvements in the passenger train organisation and in station arrangements has continued to receive the careful examination and attention of the railway administrations throughout the year. Special efforts have been directed, so far as the funds available would allow, towards the modernisation of coaching stock design, and to such matters as an adequate supply of cool drinking water for passengers, restaurant car and refreshment room catering arrangements, waiting room accommodation and to the many other details which go to ensure the comfort of passengers. The closing months of the year, however, witnessed no signs of a revival in the volume of traffic handled and the programmes of betterments which have been steadily pursued in recent years required of necessity to be slowed down to conform with the limited supply of funds available for such works. It also became needful towards the close of the year to consider modifications in the train services to suit the altered circumstances of a decreased traffic and to bring about other economies so as to confine expenditure to no more than was necessary for the proper upkeep of the track and equipment. The following is a brief summary of alterations made in the extent of the train services and of the improvements it has been possible to effect on the principal railways during the year. For the most part these were carried out in fulfilment of previous programmes or were executed on account of the urgent necessity for the works being put through.

Train Services.

Bengal Nagpur Railway.—Although the daily train mileage of mail and express trains was reduced from 3,646 to 3,120, that of ordinary passenger trains was increased from 8,714 to 9,038. The local train services mileage was also increased.

Bombay, Baroda and Central India Railway.—The speed of the Kathiawar express from Bombay was accelerated and also that of the frontier mails and the down Bombay Punjab express. Trade depression and the fall in earnings necessitated certain passenger and local trains being cancelled from the 1st September and the 1st October, 1930. Bombal Central Station was formally opened on the 18th December, 1930, and from the 19th of that month all mail, express and through passenger trains were started from and terminated at that terminus instead of Colaba. Bombay Central Local Station was also opened for traffic on the same day. Colaba station was closed from midnight of the 31st December, 1930, and Church Gate station made the terminus for local and suburban electric trains. Adjustments were made in the runs of steam coaches, a light unit which is under experiment as a means of meeting the requirements of local short distance traffic.

Burma Railways.—The opening of the section Nyaungdo to Kyaukpadaung, a distance of $10\frac{3}{4}$ miles, and the extension of two trains to and from Kyaukpadaung entailed a small increase in the daily mileage of mixed trains.

Eastern Bengal Railway.—Owing to the general trade depression the goods and passenger train services had to be reduced, and as a further measure of economy a number of passenger trains were converted into mixed trains. The train miles run per day by passenger trains other than mail and express trains, but including suburban, shuttle and mixed trains, were reduced from 7,708 to 6,139 miles on the metre gauge and from 10,511 to 9,114 miles on the broad gauge.

East Indian Railway.—The total mileage of mail, express and other passenger trains including mixed trains, suburban trains and shuttle services was 1,230,463 during the year 1930-31, as compared with 1,274,884 in the previous year, which represents a decrease of 1,432 train miles per day. There was a decrease in all services except ordinary passenger trains.

Great Indian Peninsula Railway.—A reduction was made in the train mileage of all services rendered necessary on account of the heavy drop in traffic. Two mail and express trains were cancelled, also 8 passenger trains, 16 mixed trains and a large number of electric suburban trains.

Madras and Southern Mahratta Railway.—The train miles on the broad gauge were reduced by 450 compared with the preceding year, made necessary on account of the decreased demand for accommodation. There was a small increase in the mileage of suburban trains. On the metre gauge section the train miles were reduced by 1,035 principally through the cancellation of one train each way between Poona and Kolhapur and two locals between Katpadi and Chitoor.

His Exalted Highness the Nizam's State Railway.—On the broad gauge the train mileage of mail and express trains was reduced but that of ordinary passenger trains was slightly increased. On the metre gauge a reduction was made in the train mileage of passenger and mixed trains to correspond with the reduced demand for travel.

North Western Railway.—Adjustments of the time-table resulted in an increase in the train mileage of mail and express trains of 1,224 daily, but a reduction in that of passenger and shuttle trains of 1,148 and 1,253.

South Indian Railway.—Train miles were increased under the heads mail, express, passenger and suburban trains and reduced under mixed and shuttle trains other than suburban, the net effect being an increase in the daily train mileage of 1,247. The increase in train miles was partly due to the opening of new lines.

Improvements in the design of and accommodation in carriages.

Assam Bengal Railway.—Of the 458 third and intermediate class carriages (including composite carriages of different classes), 443 have now been fitted with latrines. Of these 416 have been provided with water tanks.

Bengal and North-Western Railway.—During the year the fitting of electric lights in the latrines of bogie third class and intermediate and third class carriages has been extended.

Bengal Nagpur Railway.—Lighting arrangements are gradually being provided in the latrines of third class carriages. All coaches have been provided with latrines and enamel floor pans have been fitted to all third class latrines. Experimental work was undertaken in regard to a better type of upper berth in first and second class compartments and of fans in intermediate class coaches.

Bombay, Baroda and Central India Railway.—The programme for the replacement of old type vehicles by modern stock of the latest standard design and the elimination of four-wheeled stock was continued. The new type of coaches is provided with larger latrines according to the standard laid down by the Railway Board. All gas-lit stock is gradually being converted to electric lighting and the external lighting of broad gauge coaching vehicle rakes was taken in hand. Reading lamps have been provided over each berth in first class carriages and the number of fans in upper class stock increased.

Burma Railways.—The electric lighting of all the bogie stock was completed. Coat-hooks have been provided in 1,500 latrines of third class carriages and the latrines generally improved.

Eastern Bengal Railway.—An improved pattern throwover window catch has been fitted to the slatted windows of some coaches. There was a net increase in the seating accommodation of 4,453 seats on the broad gauge and 3,981 on the metre gauge following on the placing of new stock on the line.

East Indian Railway.—The construction of one intermediate class and one third class tourist car was taken in hand. These vehicles are 68 feet long, mounted on standard bogie underframes and will each accommodate 38 passengers. Two rakes of passenger stock were fitted with an improved system of external lighting. The external lighting is entirely separate from the internal and is used only when the train is at a stand or proceeding dead slow. The internal lighting has been greatly improved by this separation; the method, however, is still in the experimental stage. All latrines in bogie intermediate and third class stock passing through workshops were fitted with coat-hooks.

Great Indian Peninsula Railway.—The year saw the completion of a second articulated rake for the Poona-Bombay section. Four first and second class composite carriages were built to the new standard design. Each first class berth is provided with a fan and second class compartments have two fans where previously one was provided. Two experimental third class tourist cars of new design were built, each fitted with 20 berths and ample washing and bathing accommodation.

His Exalted Highness the Nizam's State Railway.—Incandescent gas burners were substituted for ordinary gas burners in some third class carriages. Coat-hooks and corner shelves were provided in several carriages.

North Western Railway.—Improved upholstering of seat cushions was continued and better wide-type latrines with higher capacity water tanks were provided in lower class carriages. Experiments were made with different types of light fittings and a design arrived at which is satisfactory as regards the illumination of the footboard and lighting on either side of the train at platform and rail level. 150 vehicles were converted from gas to electric lighting during the year. As in the previous year all lower class carriages built were provided with a wider type of latrine with higher capacity water tank. Automatic self-closing water-cocks were used to avoid waste and to improve the flushing. The new intermediate class carriages were provided with a folding type of wash-hand basin in the latrines.

Jodhpur Railway.—Latrines in certain lower class carriages were enlarged and provided with electric lights and ventilation. Coat-hooks were fitted. An alteration was made in the design of certain lower class carriages the purpose of which is to enable passengers to obtain access to any part of the carriage.

Rohilkund and Kumaon Railway.—The roofs of all third class passenger stock have now been painted white internally and the sides white and grey; this has improved the lighting of the coaches. An improvement was made in the latrine arrangements.

South Indian Railway.—28 bogie third class carriages and 16 bogie composite first and second class were built to the latest design in replacement of old vehicles. Separate women's accommodation was provided in 18 broad gauge and 2 metre gauge carriages and the existing women's compartments in a large number of metre gauge carriages were provided with indication boards capable of being suitably illuminated at night. Other improvements were effected in the accommodation for women. Destination boards indicating the stations between which coaches are employed have been fitted to the exterior of many through trains. Improvements were made in the latrine arrangements. Revolving chairs originally provided in a dining car have been replaced by tip seats; additional steps have been provided in many carriages to afford greater convenience in entering and alighting at low-level platforms. All upper class compartments of the metre gauge stock have now been fitted with night-lights. Locks of special design have been fitted to the lavatory doors of all new upper class carriages which prevent the doors from opening while the train is in motion.

Supply of Drinking Water.

Assam Bengal Railway.—A tube well was sunk at Srinidhi, an extra ground tank dug at Furkating and the existing tank at Maherkalibari station was extended.

Bengal and North-Western Railway.—During the hot season 88 extra watermen were employed and 12 wheeled water tanks provided at certain important stations. Two hydrants were erected at Sonepore and one new double-headed hydrant on the island platform at Khagaria.

Bengal Nagpur Railway.—209 permanent watermen were employed as at the 31st March 1931, with an additional temporary hot weather staff of 76 men. An extra two-wheeled receptacle for the supply of water was provided during the year at Itwari Station. One water storage shelter was provided at Bilaspur.

Bombay, Baroda and Central India Railway.—The method of providing travelling watermen on all passenger trains during the hot weather was continued. Additional watermen were appointed on the metre gauge. With a view to arranging a better supply of cool drinking water, experiments were made of concentrating watermen at large stations where trains stop for ten minutes and over. A large number of improvements was made in the watering arrangements at stations by way of water taps, pipe lines and water houses.

Eastern Bengal Railway.—The supply of drinking water to passengers was improved during the year by the provision of water taps, hydrants and tube wells at five stations at a total cost of Rs. 5,838.

East Indian Railway.—A filtered water supply was provided at Barakar Station. A 3 inch pipe for the third class area at Cawnpore Central was installed, brick built parapets for water jars erected at Mirzapore and notices directing passengers to these hung in conspicuous places; additional Hindu and Muhammadan watermen were appointed during the hot weather, and wooden cages were supplied at certain stations for storing drinking water in jars.

Great Indian Peninsula Railway.—Water cages were provided on passenger platforms at six stations, a stand pipe erected on the down platform at Bodwad and a water tap at Chembur.

Madras and Southern Mahratta Railway.—On this Railway permanent watermen were employed at 41 stations, temporary men at 54. Water taps were provided at 90 stations and water taps and watermen at 74 stations.

His Exalted Highness the Nizam's State Railway.—Improved arrangements for supply of water were made at Bhadrachallam and Potkapalli.

North Western Railway.—Deep well hand-pumping plants or tube wells were provided during the year at nine stations, handbarrows for cold water were supplied at several stations. As in the past extra watermen were employed during the hot weather and squads of watermen accompanied trains to supply water to passengers.

Rohilkund and Kumaon Railway.—Five hand carts were supplied at certain stations. The settling tank at Ramnagar was divided so as to allow of silt being separated and of the water being chlorinated.

South Indian Railway.—Additional hydrants were erected at seven stations; drinking water carts were provided at two stations and one chlorinated tank at Nilambur Road.

Restaurant Car Services and Refreshment Rooms.

Bombay, Baroda and Central India Railway.—The popularity of the arrangements for hot meals for Hindus and Muhammadans on certain broad gauge express trains was maintained. The number of new refreshment rooms provided were two for Hindus, two for Muhammadans and two for the travelling public generally at Bombay Central and one for the latter at Chitorgarh.

Burma Railways.—One new dining car was built.

Great Indian Peninsula Railway.—A buffet car for Indian refreshments was run on the Grand Trunk expresses between Balharshah and Delhi from 1st September, 1930. Dining cars for 1st and 2nd class passengers were

placed in service on important through trains between Bombay-Nagpur, Bombay-Delhi, Bombay-Chheoki, Bhusawal-Jhansi and Bombay-Poona. The number of refreshment rooms was increased from 36 to 37.

Madras and Southern Mahratta Railway.—An Indian refreshment car was placed in service on the Grand Trunk expresses between Madras and Bezwada from the 1st September, 1930. At Nidadavolu station an Indian refreshment room was opened on the 1st May, 1930, bringing the total number of Indian refreshment rooms on the railway to 42.

South Indian Railway.—An Indian buffet car was placed in commission between Madras, Egmore and Shencottah and between Villupuram and Shencottah. The number of Indian and Muhammadan refreshment rooms was increased from 27 and 5 respectively to 29 and 6 during the year, a Muhammadan refreshment room being opened at Tanjore and two light refreshment rooms at Palni and Dindigul.

Vendors' Stalls.

Assam Bengal Railway.—Eight vendors' stalls have been built at Dhoom Ghat, Feni, Fulgazi, Hathazari, Nazirhat, Sholashahar and Brahmanbaria. There are now 52 Hindu and 32 Muhammadan stalls on the railway. The stalls are supervised by the Indian Tea Cess Committee who have effected improvements in the method of preparation of tea at the stalls.

Bengal and North-Western Railway.—A new refreshment stall was erected on the main platform at Muzaffarpur and a new tea stall at Barauni Junction.

Bengal Nagpur Railway.—An old type of vendor's stall at Rambha was dismantled and a new one provided in its place. Improvements have been effected during the year by the provision of marble slabs in the tea kiosk at Purulia. Other minor improvements have been effected in certain stalls including a kitchen for the Muhammadan catering staff at Chakardharpur and water taps in the Indian catering stalls at Berhampur and Kolaghat. Improvements were also made in the Indian catering building at Ranchi.

Bombay, Baroda and Central India Railway.—In addition to improvements to many stalls several new Hindu and Muhammadan tea and refreshment stalls were built either to replace old types or as additions to those already at stations.

Burma Railways.—Work at two vendors' stalls at Shanzu was commenced and one vendor's stall was provided at Namma Station. The vendor's stalls at Gyogon and Thamaing were improved.

Eastern Bengal Railway.—The stalls on this railway are of approved pattern and fitted with marble-top counters, glass cases, etc. The question of providing re-inforced concrete portable stalls by the Railway is under consideration.

East Indian Railway.—A vendor's stall was provided at Ondal station.

Great Indian Peninsula Railway.—Improvements were made in stalls at several stations including Victoria Terminus and Manmad. The number of stations at which stalls are provided is now 123.

Madras and Southern Mahratta Railway.—A new model tea stall was opened at Guntakal in addition to the existing stalls at this station.

North Western Railway.—Additional stalls were provided at three stations. Improvements to the existing stalls were carried out at Amritsar, Nowshera, Peshawar City, Campbellpur and Peshawar Cantonment.

Jodhpur Railway.—The number of vendor's stalls was increased at several stations.

South Indian Railway.—Tea and fruit stalls were provided at a large number of stations during the year. The licensees at Dindigul and Palni were permitted to erect at their own cost small refreshment rooms instead of

wooden stalls. Combined fruit and tea stalls of an improved type were constructed at Vellore Cantonment and Cannanore.

Waiting rooms for upper class passengers. Waiting halls for third class passengers. Benches.

Assam Bengal Railway.—A waiting room was provided for first and second class passengers at Chowmuhani. The waiting shelters at Comilla and Brahmanbaria have been extended. Jamunamukh station building has been extended to provide for third class passengers and a new shelter has been built at Sholashahar station.

Bengal and North-Western Railway.—A waiting hall was provided on the platform at Gorakhpur station. Double seated benches were provided at a few stations and the supply of additional benches is in hand.

Bengal Nagpur Railway.—Extensions and improvements to the waiting halls at Kanhan, Byree and Khirsadoh were sanctioned and work completed during the year. Waiting halls at Khajura, Kanhiwara and Cuttack were completed and the construction of shelters at two other stations taken in hand. Temporary waiting shelters were completed at five passenger halls between stations. Two benches each were provided on the platforms at Bhojudih and Chakardharpur and one bench at Bakrabad. Twelve benches were provided in the waiting shelters at five other stations.

Bombay, Baroda and Central India Railway.—Modern waiting and retiring rooms were provided at the new station building at Bombay Central and a waiting room for ladies constructed at Church Gate. A waiting room was also provided at Chanasma. Additional passenger halls, waiting shelters and other accommodation for passengers were provided at a large number of stations, the nature of the alterations taking the form of extending waiting shelters, provision of lighting, sunshades, zenana rooms, covered roofs over platforms, etc. It is the policy of the Bombay, Baroda and Central India Railway to provide waiting shelters with benches and 68 wooden or cement benches were supplied during the year.

Eastern Bengal Railway.—A first and second class waiting room was completed and brought into use at Bogra. Extensions and improvements were made to waiting halls for third class passengers at seven stations. New waiting shelters were built at nine stations at a total cost of Rs. 20,713. Passenger shelters at Raninagar and Abdulpur were also under construction at the end of the year. Besides the above, combined intermediate and third class ladies' waiting rooms and halls were provided at six stations. At 98 stations a total of 158 additional benches were provided in third class waiting halls. The amount expended on such amenities amounted to Rs. 4,044.

East Indian Railway.—The shelters for third class passengers at Ondal, Chandrapura, Roorkee and Najibabad were extended and new shelters built at four stations. Additional platform benches were provided at 26 stations; these included 22 at Cawnpore Central.

Great Indian Peninsula Railway.—An old third class waiting room at Dhamangaon was converted into an upper class ladies' waiting room, and a waiting room for *purdah* women provided in the existing third class hall. The waiting hall at Baran was extended. New third class waiting shelters were provided at nine stations. Fourteen benches were provided at four stations.

Madras and Southern Mahratta Railway.—The third class waiting room at Gudivada and Chickjajur were extended. Waiting rooms were provided for *purdah* women at three stations. Thirty additional benches were provided on platforms at 12 stations.

His Exalted Highness the Nizam's State Railway.—Waiting shelters were provided at three stations. A third class waiting room at one station was paved and the Secunderabad Broad Gauge main platform roofing was completed.

North Western Railway.—Waiting rooms for first and second class passengers were provided at Derababa Nanak, Lalamusa and Simla. Extensions to waiting shelters were carried out at three stations and a new shelter was constructed at Tarujabba. 230 additional benches were supplied at 40 stations.

South Indian Railway.—Waiting rooms for first and second class passengers were provided at Nazareth, Manamadura, Guindy, Pallavaram and Tambaram. The existing waiting shelter accommodation was extended at seven stations. New shelters were erected at 16 stations, some of these being temporary in connection with special *mela* traffic. 75 additional benches were supplied at 13 stations.

Opening of new stations and city booking offices.

Bengal Nagpur Railway.—One additional passenger hall was opened during the year at Chandameta in the Nainpur District.

Bombay, Baroda and Central India Railway.—Eight new flag stations were opened during the year. Three of the existing flag stations, at which a fairly heavy traffic had been fostered are being provided with booking offices, waiting shelters, and benches. Booking facilities or improvements additional to the existing facilities were provided at a large number of stations.

East Indian Railway.—A booking office in the new third class waiting hall was provided at Tundla.

North Western Railway.—New stations were opened during the year at the Walton Training School and at Khudazai. A city booking office was opened at Patiala in December, 1930, but on account of insufficient traffic was closed in the following March.

92. Flood damages.—The rainfall throughout the country as a whole was normal, but as is usual the distribution varied in different localities causing sudden floods of sufficient severity to breach the line or cause damage to bridges. The more serious of these interruptions to traffic were the wash away of 4 spans each of 60 feet in length of the Waghoor River Bridge on the Great Indian Peninsula Railway. Damage to several bridges on the Eastern Bengal Railway was caused as a result of heavy rain in the adjoining hills and several breaches occurred on the South Indian Railway including serious damage to the Nilgiri hill railway where several bridges were completely washed out. This section of the line was out of commission from October, 1930, until April in the following year. Some details of the breaches, wash-aways and slips that occurred during the year are recorded below.

Bombay, Baroda and Central India Railway.—On 29th June 1930, owing to heavy rain the narrow gauge branch line was washed away at many places between Samni and Pakhajan and also between Sambeti and Dahej. The train service was suspended and was resumed from the 2nd July, 1930. On 3rd July, 1930, the line was again breached at several places on the Samni-Dahej Railway and between Koteshwar and Kora on the Broach-Jambusar Railway. The train service on the Samni-Dahej Railway and between Koteshwar and Kavi was suspended. The line on the Jambusar-Kavi Railway was repaired and communication restored on the 9th July, 1930, and that on the Samni-Dahej Railway on the 11th July, 1930. On 4th July, 1930, the line was breached at certain places between Nar and Sayama. The line was repaired on 9th July, 1930. Transhipment was arranged between Sayama and Cambay from 9th July, 1930, and through communication restored on 15th July, 1930. On 21st July, 1930, the line was breached at Chau Mahla and was unsafe for trains; transhipment was impossible. The frontier mails were diverted *viâ* the Great Indian Peninsula Railway. The line was repaired and through communication restored on 22nd July, 1930. On the 7th and 8th July, 1930, owing to heavy rains, the Sabi river which was in flood left its course and swept through the Rewari station yard which

Chandan Chowki—Sleepers for Indian railways extracted from the Nepal Government forests.

was scoured through and the line near Rewari breached between Pataudi Road and Khalilpur, between Rewari and Jatusana, between Kund and Khori and between Bawal and Rewari. Through communication was restored after a week.

Great Indian Peninsula Railway.—On the Pachora Jamner Railway, 4 spans 60 feet long of the Waghoor River Bridge at miles 255/11 were washed away and the bank considerably damaged for a length of 1,250 feet. This occurred on 9th September, 1930, and through traffic was resumed on 1st December, 1930. On the Cawnpore-Banda Railway a washaway occurred at mile 838·3, due to abnormal rain in the Bharwa Sumerpur area on the 27th of July, 1930. This breach was repaired and the line was opened for traffic on the 30th July, 1930. Again on the 4th August, 1930, and on the 12th August, 1930, parts of a bridge collapsed. This bridge was of brick masonry and consisted of three fifteen feet arches. The highest flood level was 18 inches above rail level on the 28th July. Transhipment at site was carried out till 20th September when a temporary bridge on the original alignment was brought into use. A temporary diversion was started on 12th September, approximately 1,300 feet long with a grade of 1 in 100. The temporary bridge on the permanent alignment was opened for traffic on the 9th May, 1931.

Eastern Bengal Railway.—Due to heavy rains in the hills, two sections of the metre gauge, *viz.*, the Gauhati extension and the newly opened Purnea-Murliganj branch, were attacked by the rivers in those parts, and serious damage was done to bridges.

Madras and Southern Mahratta Railway.—On the afternoon of 26th October, 1930, bridge No. 482 at mile 146/3-4 between Kavali and Tettu was affected by floods and the line damaged in several places between these two stations rendering passage of trains impossible. On 27th October, 1930, only a few important trains were run and were transhipped at bridge No. 482. On and from 28th October, 1930, a limited train service was introduced between Madras and Bezwada. Transhipment was necessary until 1st November, 1930, when through running over the bridge was resumed. The normal train service was restored from 5th November, 1930. On the 29th November, 1930, owing to a cyclone several breaches occurred on the North-East line necessitating in some instances diversion of traffic. By the 5th December through running was resumed.

North Western Railway.—Breaches occurred in several places on the Kohat-Thal and Larkana-Dodapur sections of the narrow gauge lines and the heavy flood in the Sutlej River was responsible for others on the Lohian Khas section. But in these cases the damage was not considerable. A serious breach in the Begarji Bund allowed the Indus River water to flood the countryside and attack the railway line on the Ruk-Sibi section. Only emergent transhipment was done during this period by boats and trollies. Six special trains were run with flood refugees from Shikarpur to Rohri on 27th July, 1930. An arrangement was also made to tranship the mails by aeroplane between Rati and Jacobabad and it continued from 8th August, 1930, to 10th September. Heavy slips occurred on account of constant rain in the Kangra Valley and interfered with traffic on the Kangra Valley Railway. On the Sind left bank feeder line trouble was experienced on the Mahrabpur-Pad Idan section which was breached in several places.

South Indian Railway.—Due to heavy rains between 21st to 26th October, 1930, and again in November there were breaches in several sections of this railway causing interruptions to traffic. All the breaches were restored within a period of one month but serious damage was caused on the Nilgiri railway due to heavy slips, resulting in several bridges being completely washed away; they were reconstructed and through communication was restored on 10th April, 1931.

93. Accidents.—The following table shows the number of passengers, railway servants and other persons killed and injured in accidents on Indian

Railways, apart from accidents in Railway Workshops, in 1929-30 and 1930-31 :—

Cause.	Killed.		Injured.	
	1929-30.	1930-31.	1929-30.	1930-31.
Passengers.				
In accidents to trains, rolling-stock, permanent-way, etc.	6	**12**	69	**140**
In accidents caused by movements of trains and railway vehicles exclusive of train accidents.	349	**325**	1,040	**881**
In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned.	3	...	17	**16**
	358	**337**	1,126	**1,037**
Railway Servants.				
In accidents to trains, rolling-stock, permanent-way, etc.	33	**25**	174	**132**
In accidents caused by movements of trains and railway vehicles exclusive of train accidents.	343	**282**	1,708	**1,827**
In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned.	62	**44**	4,014	**4,659**
	438	**351**	5,896	**6,618**
Other persons.				
In accidents to trains, rolling-stock, permanent-way, etc.	67	**71**	171	**96**
In accidents caused by movements of trains and railway vehicles exclusive of train accidents.	2,481	**2,397**	774	**735**
In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned.	21	**24**	87	**61**
	2,569	**2,492**	1,032	**892**
	3,365	**3,180**	8,054	**8,547**

Of the total of 3,180 *persons* killed, 1,921 were trespassers on the line, 365 were reported by the Police to be suicides and 68 were killed on railway premises otherwise than through the movement of trains. The number of persons killed has decreased by 185 as compared with the previous year. The number of *passengers* killed, decreased by 21 and of passengers injured by

89 although there was an increase in the passenger train miles of 130,000 over the previous year. The following figures show the number of *passengers* killed and injured on all railways during the last 5 years :—

Year.	Passengers.	
	Killed.	Injured.
1926-27	347	1,264
1927-28	387	1,179
1928-29	418	1,368
1929-30	358	1,126
1930-31	**337**	**1,037**

On class I Railways the number of *railway servants* killed in accidents occurring during the movement of trains and railway vehicles, exclusive of train accidents, decreased by 64, while the number injured increased by 121. The following table analyses the main causes of accidents :—

Cause.	Killed.		Injured.	
	1929-30.	**1930-31.**	1929-30.	**1930-31.**
Misadventure or accidental	210	**187**	1,400	**1,550**
Want of caution or misconduct on the part of the injured person.	125	**80**	215	**186**
Want of caution or breach of rules, etc., on the part of servants other than the persons injured.	3	**7**	31	**30**
Defective apparatus or system of working, dangerous places, dangerous conditions of work or want of rules or systems of working.	...	...	...	**1**
	338	**274**	1,646	**1,767**

94. The following is an analysis of accidents which occurred during the last two years grouped according to the principal causes. A statement show-

ing the accidents in greater detail for each railway will be found in Appendix D of Volume II of the Report :—

	1929-30.	1930-31.
Running over cattle	9,285	8,861
Derailments not involving passenger trains	4,095	4,176
Accidents due to failure of couplings and draw gear	3,091	3,100
Accidents due to failure of engines owing to faulty material, workmanship and operation arising from the working of the running staff	3,105	2,483
Accidents due to failure of engines owing to faulty material and workmanship in the Mechanical Department . . .	783	712
Broken rails	336	415
Derailment of passenger trains . . .	511	369
Flooding of permanent way . . .	171	288
Collision involving goods trains or goods vehicles	300	222
Running over obstructions on the line . .	217	222
Fires in trains or at stations or bridges .	266	173
Train wrecking or attempted train-wrecking	58	145
Trains running over obstructions or vehicles at level crossings	125	104
Passenger trains running in the wrong direction through points but not derailed .	110	96
Accidents due to failure of axles . .	94	90
Land slips	108	87
Collisions involving passenger trains . .	88	80
Collisions between light engines . .	71	53
Accidents due to failure of tyres or wheels .	14	27
Accidents due to failure of brake apparatus .	19	23
Failure of bridges or tunnels . . .	4	9
Miscellaneous	675	616
	23,526	22,301

The total number of accidents shows a decrease of 1,225 as compared with the previous year. " Running over cattle " still accounts for the largest number, 40 per cent. Next in order are " derailments not involving passenger trains ", 19 per cent., " accidents due to failure of couplings and draw gear ", 14 per cent., " accidents due to failure of engines owing to faulty working of the running staff, etc.", 11 per cent., and " accidents due to failure of engines owing to faulty material, etc., in the Mechanical department ", 3 per cent.

" Collisions involving passenger trains " show a slight decrease, although passenger train miles increased by 130,000 miles. The other heads showing a decrease are " derailment of passenger trains ", " collisions involving goods trains or goods vehicles ", " fires in trains or at stations or bridges ", " trains running over obstructions or vehicles at level crossings ", " passenger trains running in the wrong direction through points but not derailed ", " accidents due to failure of axles ", " land slips " and " collisions between light engines ". There was a large increase in the number of accidents classed as

train wrecking or attempted train wrecking, the number in 1929-30 was 58 whereas in the year under review it is 145.

95. Among the more serious accidents which occurred during the year the following may be briefly mentioned :—

Derailment of 1 Up Express on the Bengal and North-Western Railway owing to a cyclonic storm.—On 26th May 1930 at about 19-5 hours while No. 1 Up Express train was proceeding between Sahebpur Kamal and Lakhminia on the Katihar-Cawnpore section of the Bengal and North-Western Railway, it was struck by a cyclonic storm. The driver applied the brakes and brought the train almost to a stand, but the force of the storm derailed the train, and all vehicles, except one bogie, were overturned. One passenger and the engine Khalassi were killed and four passengers, the driver, fireman and Assistant Guard injured. The total damage to the rolling stock amounted to Rs. 21,500.

Derailment of No. 60 Down mixed train on the Bombay, Baroda and Central India Railway owing to a storm.—On the 10th June, 1930, at 18-10 hours No. 60 Down mixed train while proceeding from Sonason to Himatnagar on the Ahmedabad-Parantij branch of the metre gauge section of the Bombay, Baroda and Central India Railway encountered a severe storm. The last nine vehicles of the train which were all bogie passenger vehicles were blown from the track and overturned. Twenty-four passengers were injured, of whom one died subsequently. The damage to rolling stock amounted to Rs. 1,800.

Derailment and attempted wrecking of 16 Up passenger train on the Great Indian Peninsula Railway.—On the 24th July 1930 at 15-15 hours all the vehicles (except the engine) of No. 16 Up passenger train were derailed between Narayanpeth and Yadgiri on the Poona-Raichur section of the Great Indian Peninsula Railway. Two railway servants and three passengers were slightly injured. The derailment was due to some wooden keys having been maliciously removed from the track and to an obstruction being placed on the rails. The estimated cost of damage to the permanent way was Rs. 1,584 and to rolling stock and locomotive Rs. 2,000.

Derailment of 12 Down mixed train on the Burma Railways owing to the line being breached by heavy rain.—On the 15th September, 1930, at about 1-0 hours, 12 Down mixed train while on the run between Ywadaw and Pyinmana on the main line between Rangoon and Mandalay on the Burma Railways ran into a breach which had been caused by heavy rain which fell during the two hours immediately preceding. The engine and tender, ten goods wagons, one bogie touring saloon and one bogie brake were derailed. One servant in the saloon was killed and three injured. The approximate damage to the rolling stock amounted to Rs. 30,000, and to the permanent way Rs. 1,000.

Derailment and attempted wrecking of No. 302 Down goods train on the East Indian Railway.—On the 17th September at about 0-50 hours, No. 302 goods train was derailed between Karchana and Bheerpur on the Moghalsarai-Allahabad section of the East Indian Railway. The engine was overturned and the twelve leading wagons derailed. The driver, guard and first fireman sustained slight injuries. The derailment was due to wilful damage having been done to the line, one rail having been completely removed from its position on the sleepers and laid at the side of the track. The damage to rolling stock and to the engine was estimated at Rs. 13,000 and to the permanent way about Rs. 500.

Derailment and attempted wrecking of 7 Up Dacca Mail on the Eastern Bengal Railway.—On the 17th September 1930, at about 0-52 hours, No. 7 Up Dacca Mail was entirely derailed between Banpur and Darsana on the Ranaghat-Poradah section of the Eastern Bengal Railway. The driver felt the wheels under his cab derail and immediately applied the brake, the train coming to a stand within its own length, but not before it had been derailed. Four persons were killed and fifty-six injured. The derailment was due to a rail having been stripped of its fastenings by some person or

persons unknown, the bolts, nuts and fish-plates being found loose and undamaged opposite the ends of the rail. The damage to rolling stock was estimated at about Rs. 55,000 and to the permanent way at Rs. 3,000.

Derailment and attempted wrecking of 4 Down mail on the Burma Railways.—On the 28th October, 1930, at about 1-50 hours, 4 Down mail was derailed between Sibintha and Nyaungchidauk on the Rangoon-Mandalay main line. The engine, tender and six rear bogies remained on the track but the leading four-wheeled luggage van, bogie brake and seven passenger bogie vehicles were derailed, four vehicles being capsized. The accident was due to the removal of a joint and 12 spikes in a short rail length south of the bridge at mile 144/17 by some person or persons unknown. Two passengers were killed and seven injured of whom one died subsequently. The approximate damage to rolling stock was Rs. 65,000 and to the permanent way Rs. 400.

33 Up mixed train running into a motor bus on the North Western Railway.—On the 15th November, 1930, at about 13-30 hours, a motor bus crashed through the closed gates at a level crossing between Nasrala and Shamchaurasi on the Jullundur Cantonment-Hoshiarpur branch line of the North Western Railway and was run into by 33 Up mixed train which was passing at the time. The motor bus was wrecked and two vehicles of the train were damaged. Two passengers in the bus were killed and three injured.

Derailment and attempted wrecking of 82 Down Parcels Express on the East Indian Railway.—On the morning of the 25th May, 1930, at 4-5 hours, 82 Down Parcels Express running between Maitha and Bhanpur was derailed. An examination of the track immediately after the occurrence showed that the fish-plates, nuts and bolts of one of the rails had been removed and the rail turned over on its side. There was slight damage to rolling stock and to the track.

96. Publicity.—The propaganda conducted by the Central Publicity Bureau of Indian Railways during 1930-31 and during the past few years in Great Britain and America and to a lesser extent on the Continent, taken with the interest that has been aroused throughout the world in regard to India's political future will, it is believed, result in a large influx of visitors when conditions become more settled. The disturbed state of India throughout the year and the world trade depression have undoubtedly prevented many travellers from visiting this country. The serious loss of revenue from the decline both in traffic from abroad and in local traffic in India made it necessary to effect a curtailment of the budget allotment for publicity during the year, and strenuous endeavours were made by the bureau to develop all possible sources of revenue, among which was an extension of the activities of the London office to procure advertisements for display in India.

Films.—The production of films continued to be an important part of the bureau's activities. Apart from topical films, the most interesting output of the year were films of Kashmir and Shillong and of the Inauguration Ceremonies in connection with the formal opening of New Delhi. Three " Safety First " films were prepared, and a film illustrative of the remarkable growth of the canal colonies in the Punjab, entitled " The Desert Awakes ", was produced in collaboration with the Director of Agriculture of the Punjab Government. The use of travelling cinema cars was suspended in February, 1931, owing to the necessity for economy, but during the first ten months of the year under review nine hundred and seven shows were given on the four State-managed railways at which the attendance is estimated to have aggregated over 1,000,000. Many of the films shown have an educative value treating of subjects such as health and agriculture and topics which might be expected to encourage travel to pilgrim centres, others have an amusement motive and some were instructional in railway matters. The expansion of the photographic output of the bureau continued to be accounted for to some extent by the numerous photographs of the Inauguration Ceremonies in New Delhi taken by the bureau for publicity purposes. The reproduction fees received from many of the leading newspapers and periodicals throughout

the world in respect of these photographs more than covered the additional expenditure that was incurred by the bureau.

Pamphlets and posters.—The literary activities of the bureau were reflected in the production of a second edition of the general pamphlet on India and Burma referred to in the last report. That publication contains much information calculated to be of assistance to tourists from overseas. It is expected to distribute 60,000 copies during the year 1931-32. The preparation of a somewhat similar pamphlet describing the more important pilgrim centres in India for use by residents of the country was commenced. The number of pamphlets distributed by the bureau throughout the twelve months exceeded 318,000.

Indian State Railways Magazine.—The number of subscribers to the Indian State Railways magazine continued to increase. The general policy has not been changed and every endeavour has been made to keep the magazine to its high standard both in production and in the variety of articles selected. Articles not only of general interest to the public but of special interest to railwaymen have been included in each issue. During the year two special numbers were produced, one in December and the other in February. Of the December issue 10,000 copies were printed and a large number distributed through tourist and travel agencies and through the London and New York Indian Railways bureaux. The February issue treated specially of the inauguration of New Delhi. Over 1,000 copies were sold in Delhi alone, and this issue was well reviewed both by the press in India and in England. Despite the general trade depression and the consequent drop in receipts from advertisements, the magazine was run at a profit after making full allowance for all overhead expenses. Supplements to the Indian State Railways magazine were published monthly by the North Western, Great Indian Peninsula, East Indian and Eastern Bengal Railways. The supplements are intended to keep the staff informed of current events and social happenings on their own railways and have maintained their high standard and continued to prove popular with the staff.

London bureau.—The main office remained at 57, Haymarket, while a branch was opened in July, 1930, in India House. The main room of the latter is an annexe of the octagonal entrance hall and has a vaulted ceiling eventually to be decorated by Indian artists with frescoes such as are now being executed in other parts of the building. The furniture of the bureau has been specially designed and is constructed of Indian rosewood. The bureau was visited by Their Majesties the King and Queen on the 8th of July, 1930, when India House was opened, and Her Majesty visited the bureau a second time on the occasion of her visit to an exhibition of pictures by Indian art students. The activities of the bureau in London take the form of advertising in the Press, obtaining the co-operation of journalists, authors, educational institutions and others in propaganda to promote the interest of the public in India and to encourage travel in this country. Posters were distributed and reciprocal arrangements entered into with English railways for the display of posters. Attractive window displays were arranged in both the Haymarket and India House bureaux.

New York bureau.—The new offices at 38, East 57th Street between Fifth and Madison Avenues were occupied on May 28th, 1930. The general design of the waiting room is of the Moghul period, the panelling being in the form of an arch and the pillars a simplified form of those in the Pearl Mosque at Delhi. The panelling is of American walnut, which is similar to Kashmir walnut, and the partitions also of walnut are constructed with pillars designed as minarets. The whole design produces a striking and pleasing effect and reports have been received that the bureau compares favourably with other tourist offices in New York. Owing to the unsettled conditions in India during the year the amount allotted for advertising in New York was considerably curtailed. A large number of pamphlets were distributed in addition to about 4,000 copies of the Indian State Railways magazine. Window displays were staged in leading shops and tourist agencies in New York and other cities. The primary object of the New York

bureau is to keep India in the forefront in the itinerary of tourists and to disseminate information and distribute literature to travel agents and the American public.

Publicity in India.—As in previous years conducted tours for residents of the country were organised on several railways whereby people who, it is believed, would not have travelled ordinarily were encouraged to make the journey. Publicity officers on railways and of the Central Publicity bureau have paid particular attention during the year to the problem of the best means of encouraging third class traffic on railways. In addition to the production of suitable films to encourage Indians to visit pilgrim centres, a pamphlet is now under preparation giving information as to places of interest, fees to be paid, accommodation available for visitors and other details which are likely to be of use to those who are contemplating a pilgrimage. The question of organising third class conducted excursions on a larger scale was also examined. This form of travel has already been adopted on various railways, the Bombay, Baroda and Central India Railway having run ten special trains during the year, while the Eastern Bengal Railway, arranged for four special trips for third class passengers. All railways by the issue of handbills in the vernacular, by posters, the use of the gramophone and by other methods have brought to the notice of prospective passengers the travel facilities which railways are now-a-days in a position to offer.

97. A brief account of the publicity work undertaken on certain railways during the year is given below :—

Bombay, Baroda and Central India Railway.—This railway was particularly affected by the disturbed conditions both political and economic, which prevailed in India during the year, and in the circumstances the administration considered it essential to exercise a careful and discriminating discretion in the matter of expenditure on publicity. There was accordingly a reduction in expenditure as compared with the sanctioned budget allotment under this head during the year. In accordance with established practice the seasonal concessions for Christmas, Easter and Divali holidays were advertised on the same lines as formerly. With the object of stimulating traffic to hill stations, appropriate measures were adopted and special care taken to emphasize the attractions of the Himalayas. The success of this policy was reflected in an increase in the number of passengers to Kashmir. Altered circumstances rendered it inadvisable to pursue the policy of intensive propaganda on the lines carried out on the metre gauge system last year for the purpose of creating additional third class pilgrim traffic on the conducted tour basis. Original photographic views depicting places of tourist and pilgrim interest were utilised in decorating the waiting rooms at Bombay Central Station. All work in connection with commercial advertising at stations and other places were taken over from Messrs. A. H. Wheeler & Co., Advertising Agents, by the Publicity Department of the Railway. Eight special trains were run during the cold weather for overseas tourist traffic, the revenue derived slightly exceeding that of the previous year. An interesting feature of a second class tourist special run from Bombay was the entertainment provided by means of wireless loud speakers fitted up in the dining car. Special efforts were made to attract traffic during the holiday periods, taking the form of distribution of leaflets, display of posters and in other ways. A close touch was maintained with the Indian press where a number of articles and photographs were published in addition to advertisements being inserted. Many items of interest were communicated to English periodicals and published by them.

Eastern Bengal Railway.—The activity of the railway in publicity matters was well sustained throughout the year. An interesting innovation was a talk on Darjeeling in English and in the vernacular broadcasted from the Calcutta Station of the Indian Broadcasting Company in February 1931.

East Indian Railway.—Attention was chiefly directed to the development of third class traffic, posters pictorial as well as letter press being freely distributed, and advertisements and articles placed in the newspaper press and in periodicals. Other forms of publicity took the form of travelling

cinema cars, tourist advisers at important stations, stalls at exhibitions and at *melas* and fairs. Owing to the urgent need for retrenchment the activities of the publicity branch were curtailed and attention was latterly concentrated on traffic development and additional revenue from advertising facilities.

Great Indian Peninsula Railway.—The advertising of special holiday concessions received special attention and coaching facilities were prominently illustrated by means of posters at stations and in other suitable sites. Handbills to the number of several lakhs were distributed in connection with pilgrim traffic, to counter motor bus competition, for special race train services and in connection with goods traffic facilities. Owing to the severe trade depression in Bombay and vicinity, the revenue from station advertising fell from Rs. 69,193 to Rs. 45,443. The information bureau at Bombay during the nine months up to the end of March, 1931, answered more than 17,000 general enquiries over the counter, and 13,000 over the telephone; nearly 2,000 requests for information by post were handled. December and March were the heaviest traffic months being the time of the Christmas and Easter holidays. Five " world cruise " ships called at Bombay in connection with which fourteen tourist specials were run to different parts of India. Liberal supplies of the Indian State Railways magazine, descriptive pamphlets and other literature were placed in the trains. In all nearly 1,000 first class passengers were carried and the gross earnings accruing from this special traffic amounted to over Rs. 2 lakhs. The traffic was less than in the previous year.

Madras and Southern Mahratta Railway.—Local fairs and festivals were advertised widely by means of posters, press notices and handbills. Special efforts were made to bring these fairs to the notice of villagers and residents in the vicinity of the line by the distribution of vernacular pamphlets and handbills and by means of posters displayed at municipal and local board offices, schools, and other places. Efforts were made to stimulate traffic during the Easter, Dasara, Dipavali and Christmas holidays and in all 1,250 press notices, 6,565 posters, 55,500 pamphlets and 450,000 handbills were distributed in English, Tamil, Telugu, Canarese and Marathi. Pamphlets describing the important pilgrim centres of Tirupati, Kalahasti and Trivellore were published and distributed. Another side of the activities of the branch was the securing of advertisements for display in the various publications of the Railway and at stations. The year being one of accute trade depression advertisements were difficult to secure.

North Western Railway.—Illustrated folders were distributed and pictorial posters exhibited at most stations; posters were also sent to foreign railways for exhibition. The usual fare concessions granted during holiday periods were extensively advertised. The cinema car was freely used for publicity propaganda, but in view of the necessity of curtailing expenses, was withdrawn from the 1st February 1931. Tourist advisers were appointed and in connection with the Imperial Horse Show at Delhi a Publicity bureau and an enquiry office opened for the convenience of visitors and for the advertising purposes of railways generally.

South Indian Railway.—Temporary enquiry and booking offices were opened during the year at some of the important festival centres. The stimulation of third class passenger traffic continued to receive the attention of the publicity branch on lines similar to those followed in the previous year. In addition to the posters previously printed and issued, a poster advertising Trichinopoly Rock and temple was prepared and exhibited at important railway stations, copies being sent to tourist agencies in England, Ceylon and America. An abridged illustrated guide priced six annas containing information about health resorts, hill stations and places of religious and historical interest with 41 illustrations was printed, some copies being distributed free of cost. An illustrated calendar was printed and issued free to traders, tourist agencies, steamship companies and others.

98. Anti-malarial work.—The measures adopted on railways for the prevention of the spread of malaria continued to receive attention and it is

satisfactory to record that good results have been obtained. On the Assam Bengal Railway the steps taken in Lumding continued to meet with success. During the months of July and December, 1930, the number of malarial cases treated was the lowest on record. On the Eastern Bengal Railway anti-malarial measures have led to a decline in the incidence of malaria which is borne out by a decrease of 7,100 cases in the year as compared with the preceding year.

The measures taken on the Great Indian Peninsula Railway included regular inspections by the Health Department staff of the railway under the direct control of the Health Assistants, and the systematic destruction of larvæ by levelling and drainage. As a result of these measures and partly also of the more exact diagnosis consequent on the work in the laboratories, the percentage of malaria cases in relation to the number of staff dropped from 19·54 and 12·52 in 1928-29 and 1929-30 to 7·98 during the year under review. On the Madras and Southern Mahratta Railway anti-malarial work was continued during the year. Most of the stations at which anti-malarial measures were undertaken showed a decided fall in the number of cases treated. It is worthy of note that at Bogada, one of the stations where work was undertaken, there was no case of malaria amongst the staff during the year; the staff had been much affected in years gone by. The two main difficulties encountered during anti-malarial operations are the unwillingness on the part of the patient to continue treatment for a sufficiently long time after his temperature drops and the presence of untreated civil population resident in the vicinity of the railway colony.

Systematic preventive measures on the lines previously adopted were continued on the Bombay, Baroda and Central India Railway. These included the construction of mosquito proof water cisterns, the filling in or stocking of wells with " kajuri " and " piku " fish, the draining or filling in of hollows and treating of the temporary and permanent breeding places with pesterine M. D. B. and Paris green. The Railway Medical Officer at Ajmer carried out a malarial survey of Ajmer city in co-operation with the Ajmer Municipal authorities, the results of which are contained in a booklet " Malarial survey of Ajmer city, 1930 " printed and published by the Times of India Press, Bombay. Following on this survey, the Chief Commissioner of Ajmer-Merwara on the advice of his Chief Medical Officer, has formed an Advisory Committee consisting of civil, military and railway members to devise means of co-operation in a campaign to eradicate the disease in Ajmer. If this campaign materialises, the financial saving to the Bombay, Baroda and Central India Railway Company should be considerable as a reduction in sickness of the staff on account of malaria is anticipated.

APPENDIX A.

Railway Administrations in India alphabetically arranged in three classes according to their gross earnings showing the working agencies and ownership.

[NOTE.—Railways under construction or sanctioned for construction on the 31st March 1931, are shown in italics.]

RAILWAY SYSTEM.		LINES COMPRISED IN THE SYSTEM.		
Name. 1	Worked by 2	Name. 3	Gauge. 4	Owned by 5
CLASS I.—RAILWAYS.				
1. Assam Bengal	Assam Bengal Railway Company.	(a) Assam Bengal	3′ 3⅜″	State.
		(b) Chaparmukh Silghat	3′ 3⅜″	Branch line Company under guarantee terms.
		(c) Katakhal Lalabazar	3′ 3⅜″	Ditto.
		(d) Mymensingh Bhairab Bazar.	3′ 3⅜″	Branch line Company under guarantee and rebate terms.
2. Bengal and North-Western.	Bengal and North-Western Railway Company.	(a) Bengal and North-Western.	3′ 3⅜″	Company subsidized by the Government of India.*
		(b) Mashrak-Thawe	3′ 3⅜″	State.
		(c) Tirhoot	3′ 3⅜″	Do.
3. Bengal Nagpur	Bengal Nagpur Railway Company.	(a) Bengal Nagpur	5′ 6″	Do.
		(b) Anuppur-Manendragarh.	5′ 6″	Do.
		(c) Mayurbhanj	2′ 6″	Branch Line Company under rebate terms.
		(d) Parlakimedi Light	2′ 6″	Indian State.
		(e) Purulia-Ranchi	2′ 6″	State.
		(f) Raipur-Dhamtari	2′ 6″	Do.
		(g) Satpura	2′ 6″	Do.
4. Bombay, Baroda and Central India.	Bombay, Baroda and Central India Railway Company.	(a) Bombay, Baroda and Central India.	5′ 6″	Do.
		(b) Nagda-Ujjain	5′ 6″	Indian State.
		(c) Petlad-Cambay (Anand-Tarapur Section).	5′ 6″	Ditto.
		(d) Petlad-Cambay (Tarapur-Cambay Section).	5′ 6″	Ditto.
		(e) Tapti-Valley	5′ 6″	Branch line Company under rebate terms.
		(f) Bombay, Baroda and Central India.	3′ 3⅜″	State.
		(g) Ahmedabad-Parantij	3′ 3⅜″	Branch line Company under rebate terms.
		(h) Dhrangadra	3′ 3⅜″	Indian State.
		(i) Gaekwar's Mehsana	3′ 3⅜″	Ditto.
		(j) Jaipur State	3′ 3⅜″	Ditto.
		(k) Palanpur-Deesa	3′ 3⅜″	Ditto.†
		(l) Bombay, Baroda and Central India.	2′ 6″	State.
		(m) Champaner-Shivrajpur-Pani Light.	2′ 6″	Branch line Company under rebate terms.
		(n) Godhra-Lunavada	2′ 6″	Ditto.
		(o) Nadiad-Kapadvanj	2′ 6″	Ditto.
		(p) Piplod-Devgad-Baria	2′ 6″	Indian State.
		(q) Rajpipla State	2′ 6″	Ditto.
5. Burma	State	(a) Burma	3′ 3⅜″	State.

* Receives land only from Government.

† Owned jointly by Government and Palanpur Durbar.

Railway system.		Lines comprised in the system.		
Name. 1	Worked by 2	Name. 3	Gauge. 4	Owned by 5
CLASS I.—RAILWAYS—*contd.*				
6. Eastern Bengal.	State	(*a*) Eastern Bengal	5′ 6″	State.
		(*b*) Sara Sirajganj	5′ 6″	Branch line Company under rebate terms.
		(*c*) Eastern Bengal	3′ $3\frac{3}{8}$″	State.
		(*d*) Cooch Behar State	3′ $3\frac{3}{8}$″	Indian State.
		(*e*) Eastern Bengal	2′ 6″	State.
		(*f*) Khulna-Bagerhat	2′ 6″	Branch line Company under rebate terms.
7. East Indian	State	(*a*) East Indian	5′ 6″	State.
		(*b*) Hardwar-Dehra	5′ 6″	Branch line Company under guarantee terms.
		(*c*) South Bihar	5′ 6″	Branch line Company.
		(*d*) Cawnpore-Burhwal link.*	3′ $3\frac{3}{8}$″	State.
8. Great Indian Peninsula.	State	(*a*) Great Indian Peninsula.	5′ 6″	Do.
		(*b*) Bhopal-Itarsi (Indian State Section).	5′ 6″	Indian State.
		(*c*) Bhopal-Ujjain	5′ 6″	Ditto.
		(*d*) Bina-Goona-Baran	5′ 6″	Ditto.
		(*e*) *Dharwa-Pusad*	2′ 6″	State.
		(*f*) Dhond-Baramati	2′ 6″	Branch line Company under rebate terms.
		(*g*) Ellichpur-Yeotmal	2′ 6″	Ditto.
		(*h*) Pachora-Jamner	2′ 6″	Ditto.
		(*i*) Pulgaon-Arvi	2′ 6″	Ditto.
9. Jodhpur	Indian State	(*a*) Jodhpur	3′ $3\frac{3}{8}$″	Indian State.
		(*b*) Jodhpur-Hyderabad (British Section).	3′ $3\frac{3}{8}$″	State.
		(*c*) Mirpur Khas-Khadro	3′ $3\frac{3}{8}$″	Company subsidized by the Government of India.†
10. Madras and Southern Mahratta.	Madras and Southern Mahratta Railway Company.	(*a*) Madras and Southern Mahratta.	5′ 6″	State.
		(*b*) Kolar Goldfields	5′ 6″	Indian State.
		(*c*) Tenali-Repalle	5′ 6″	District Board.
		(*d*) Madras and Southern Mahratta.	3′ $3\frac{3}{8}$″	State.
		(*e*) Alnavar-Dandeli (Provincial).	3′ $3\frac{3}{8}$″	Do.
		(*f*) Bangalore-Harihar	3′ $3\frac{3}{8}$″	Indian State.
		(*g*) Bezwada-Masulipatam.	3′ $3\frac{3}{8}$″	District Board.
		(*h*) Hindupur (Yesvantpur-Mysore Frontier).	3′ $3\frac{3}{8}$″	Indian State.
		(*i*) Kolhapur State	3′ $3\frac{3}{8}$″	Ditto.
		(*j*) Sangli State	3′ $3\frac{3}{8}$″	Ditto.
		(*k*) West of India Portuguese.	3′ $3\frac{3}{8}$″	Foreign Country.
11. Nizam's State	Nizam's State Railways.	(*a*) Nizam's State	5′ 6″	Indian State.
		(*b*) Bezwada Extension	5′ 6″	State.
		(*c*) Nizam's State	3′ $3\frac{3}{8}$″	Indian State.
		(*d*) Dronachellam (Dhone)-Kurnool-British Frontier.	3′ $3\frac{3}{8}$″	State.

* Under running power agreement the B. and N.-W. Railway Company run and haul their trains and traffic over this line.

† Receives land only from Government.

Railway system.		Lines comprised in the system.		
Name.	Worked by	Name.	Gauge.	Owned by
1	2	3	4	5

CLASS I.—RAILWAYS—*concld.*

Name.	Worked by	Name.	Gauge.	Owned by
12. North Western .	State . . .	(*a*) North Western .	5′ 6″	State.
		(*b*) Amritsar Patti .	5′ 6″	Branch line Company under rebate terms.
		(*c*) Bahawalnagar Fort Abbas-Rohatwali-Hotwala.	5′ 6″	Indian State.
		(*d*) Hoshiarpur Doab (Jullundur Mukerian).	5′ 6″	Branch line Company under rebate terms.
		(*e*) Hoshiarpur Doab (Phagwara-Rahon).	5′ 6″	Ditto.
		(*f*) Jammu and Kashmir (Indian State Section).	5′ 6″	Indian State.
		(*g*) Jind Panipat (Indian State Section).	5′ 6″	Ditto.
		(*h*) Khanpur-Chachran .	5′ 6″	Ditto.
		(*i*) Ludhiana-Dhuri Jakhal.	5′ 6″	Ditto.
		(*j*) Mandra-Bhaun .	5′ 6″	Branch line Company under rebate terms.
		(*k*) Rajpura Bhatinda .	5′ 6″	Indian State.
		(*l*) Sirhind Rupar .	5′ 6″	Ditto.
		(*m*) Sialkot Narowal .	5′ 6″	Branch line Company under rebate terms.
		(*n*) Jacobabad-Kashmor.	2′ 6″	Ditto.
		(*o*) Kalka-Simla . .	2′ 6″	State.
		(*p*) Kangra-Valley .	2′ 6″	Do.
		(*q*) Kohat-Thal . .	2′ 6″	Do.
		(*r*) Larkana-Jacobabad .	2′ 6″	Branch line Company under rebate terms.
		(*s*) Trans-Indus (Kalabagh-Bannu).	2′ 6″	State.
		(*t*) Zhob Valley	2′ 6″	Do.
13 Rohilkund and Kumaon.	Rohilkund and Kumaon Railway Company.	(*a*) Rohilkhund and Kumaon.	3′ 3⅜″	Company subsidized by the Government of India.
		(*b*) Lucknow-Bareilly .	3′ 3⅜″	State.
14. South Indian . .	South Indian Railway Company.	(*a*) South Indian . .	5′ 6″	Do.
		(*b*) South Indian . .	3′ 3⅜″	Do.
		(*c*) Nilgiri . . .	3′ 3⅜″	Do.
		(*d*) Peralam-Karaikkal .	3′ 3⅜″	Foreign Country.
		(*e*) Podanur-Pollachi .	3′ 3⅜″	District Board.
		(*f*) Pondicherry . .	3′ 3⅜″	Foreign Country.
		(*g*) Shoranur-Cochin .	3′ 3⅜″	Indian State.
		(*h*) Tinnevelly-Tiruchendur.	3′ 3⅜″	District Board.
		(*i*) Travancore (British Section).	3′ 3⅜″	State.
		(*j*) Travancore (Indian State Section).	3′ 3⅜″	Indian State.
		(*k*) Morappur-Hosur .	2′ 6″	State.
		(*l*) Tirupattur-Krishnagiri.	2′ 6″	Do.

CLASS II.—RAILWAYS.

Name.	Worked by	Name.	Gauge.	Owned by
1. Barsi Light . .	Barsi Light Railway Company.	Barsi Light . . .	2′ 6″	Company subsidized by the Government of India.*
2. Bengal Dooars . .	Bengal Dooars Railway Company.	(*a*) Bengal Dooars .	3′ 3⅜″	Company subsidized by District Board.
		(*b*) Bengal Dooars Extensions.	3′ 3⅜″	Company subsidized by the Government of India.*
3. Bhavnagar State .	Indian State . .	Bhavnagar State . .	3′ 3⅜″	Indian State.
4. Bikaner State . .	Ditto . .	Bikaoer State . .	3′ 3⅜″	Ditto.

* Receives land only from Government.

Railway system.		Lines comprised in the system.		
Name. 1	Worked by 2	Name. 3	Gauge. 4	Owned by 5
CLASS II.—RAILWAYS—*concld.*				
5. Darjeeling Himalayan	Darjeeling Himalayan Railway Company.	(a) Darjeeling Himalayan	2′ 0″	Company subsidized by Local Government.
		(b) Darjeeling Himalayan Extensions.	2′ 0″	Branch line Company under rebate terms.
6. Dibru-Sadiya . .	Assam Railways and Trading Company.	(a) Dibru-Sadiya . .	3′ 3⅜″	Company subsidized by Local Government.
		(b) Ledo and Tikak-Margherita Colliery.	3′ 3⅜″	Unassisted Company.
7. Gaekwar's Baroda State.	Indian State . .	(a) Gaekwar's Baroda State.	2′ 6″	Indian State.
		(b) Bodeli Chhota Udaipur.	2′ 6″	Ditto.
8. Gondal . . .	Ditto . .	(a) Gondal . . .	3′ 3⅜″	Ditto.
		(b) Jetalsar Rajkot .	3′ 3⅜″	Ditto.
		(c) Khijadiya Dhari .	3′ 3⅜″	Ditto.
9. Howrah-Amta Light .	Howrah-Amta Light Railway Company.	Howrah-Amta Light .	2′ 0″	Company subsidized by District Board.
10. Jamnagar and Dwarka	Jamnagar and Dwarka Railway Company.	(a) Jamnagar . .	3′ 3⅜″	Indian State.
		(b) Jamnagar-Dwarka .	3′ 3⅜″	Branch line Company under guarantee and rebate terms.†
		(c) Okhamandal . .	3′ 3⅜″	Indian State.
11. Junagad State . .	Indian State . .	Junagad State . .	3′ 3⅜″	Ditto.
12. Morvi . . .	Ditto . . .	Morvi	3′ 3⅜″	Ditto.
13. Mysore . . .	Ditto . .	(a) Mysore . . .	3′ 3⅜″	Ditto.
		(b) Bangalore-Chik Ballapur Light.	2′ 6″	Company guaranteed by Indian State.
		(c) Kolar District . .	2′ 6″	Indian State.
		(d) Tarikere-Narasimharajapura Light.	2′ 0″	Ditto.
14. Shahdara (Delhi) Saharanpur Light.	Shahdara (Delhi) Saharanpur Light Railway Company.	Shahdara (Delhi) Saharanpur Light.	2′ 6″	Company subsidized by the Government of India.*
CLASS III.—RAILWAYS.				
1 Aden‡ . . .	State . . .	Aden	3′ 3⅜″	State.
2. Ahmadpur-Katwa .	Ahmadpur-Katwa Railway Company.	Ahmadpur Katwa .	2′ 6″	Branch line Company under guarantee terms.
3. Arrah-Sasaram Light.	Arrah-Sasaram Light Railway Company.	Arrah Sasaram Light .	2′ 6″	Company subsidized by District Board.
4. Bankura-Damoodar River.	Bankura-Damoodar River Railway Company.	Bankura Damoodar River.	2′ 6″	Branch line Company under guarantee terms.
5. Baraset-Basirhat Light	Baraset-Basirhat Light Railway Company.	Baraset Basirhat Light .	2′ 6″	Company subsidized by District Board.
6. Bengal Provincial .	Bengal Provincial Railway Company.	(a) Bengal Provincial .	2′ 6″	Unassisted Company.
		(b) Dasghara Jamalpurgunj.	2′ 6″	Branch line Company under guarantee terms.
7. Bukhtiarpur-Bihar Light.	Bukhtiarpur-Bihar Light Railway Company.	Bukhtiarpur Bihar Light	2′ 6″	Company subsidized by District Board.
8. Burdwan-Katwa .	Burdwan-Katwa Railway Company.	Burdwan Katwa . .	2′ 6″	Branch line Company under guarantee terms.
9. Cutch State . .	Indian State . .	Cutch State . . .	2′ 6″	Indian State.

* Receives land only from Government.
† Financed on rebate terms given by the Jamnagar Durbar.
‡ Closed for traffic from 1st August 1929.

Railway system.		Lines comprised in the system.		
Name.	Worked by	Name.	Gauge.	Owned by
1	2	3	4	5
CLASS III.—RAILWAYS—*concld.*				
10. Dehri-Rohtas Light .	Dehri-Rohtas Light Railway Company.	Dehri-Rohtas Light .	2′ 6″	Company subsidized by the Government of India.
11. Dholpur State . .	Indian State . .	Dholpur State . .	2′ 6″	Indian State.
12. Futwah-Islampur .	Futwah-Islampur Light Railway Company.	Futwah-Islampur . .	2′ 6″	Branch line Company under guarantee terms.
13. Gwalior Light . .	Indian State . .	Gwalior Light . .	2′ 0″	Indian State.
14. Howrah-Sheakhala-Light.	Howrah-Sheakhala-Light Railway Company.	Howrah-Sheakhala Light	2′ 0″	Company subsidized by District Board.
15. Jagadhri Light .	Jagadhri Light Railway Company.	Jagadhri Light . .	2′ 0″	Unassisted Company.
16. Jessore-Jhenidah .	Jhenidah Railway Syndicate.	Jessore-Jhenidah . .	2′ 6″	Ditto
17. Jorhat (Provincial) .	River Steam Navigation Company and India General Navigation and Railway Company.	Jorhat (Provincial) .	2′ 0″	State.
18. Kalighat-Falta .	Kalighat-Falta Railway Company.	Kalighat-Falta . .	2′ 6″	Branch line Company under guarantee terms.
19. Kulasekarapatnam Light.	East India Distilleries and Sugar Factories.	Kulasekarapatnam Light	2′ 0″	Unassisted Company.
20. Matheran Light .	Matheran Steam Tramway Company.	Matheran Light . .	2′ 0″	Company subsidized by the Government of India.*
21. Porbandar State .	Indian State . .	Porbandar State . .	3′ 3⅜″	Indian State.
22. Tezpore-Balipara Light	Tezpore-Balipara Steam Tramway Company.	Tezpore-Balipara Light .	2′ 6″	Company subsidized by District Board.
23. *Tirupati-Tiruchanur Light.*	Tirupati-Tiruchanur Light Railway Company.	*Tirupati-Tiruchanur Light*	2′ 0″	Unassisted Company.
24. Trivellore Light .	T. Namberumal Chetty and Sons.	Trivellore Light . .	2′ 0″	Ditto.
25. Udaipur-Chittorgarh .	Indian State . .	Udaipur-Chittorgarh .	3′ 3⅜″	Indian State.

* Receives land only from Government.

APPENDIX B.

Notes on the relation of the Government to Railways in India.

(Reprinted from the Report for 1914-15 and brought upto date.)

Diversity of Relations between the State and Railways.—One of the special features of the Indian Railway system is the diversity of conditions that prevails in the relation of the State to the various lines in respect of ownership and control. Of the important lines situated in British India or in which the Government of India is interested, five [the North Western,* Eastern Bengal, East Indian (with which has been amalgamated the Oudh and Rohilkhand Railway from the 1st July 1925), Great Indian Peninsula and Burma Railways] are owned and worked by the State; five (the Bombay, Baroda and Central India, Madras and Southern Mahratta, Assam-Bengal, Bengal-Nagpur and South Indian) are owned by the State but worked on its behalf by companies enjoying a guarantee of interest from the Government; two important lines (the Bengal and North-Western, and Rohilkund and Kumaon) and many of less importance are the property of private companies, some being worked by the owning companies and some by the State or by the companies that work State-owned systems; several minor lines are the property of District Boards or enjoy a guarantee of interest granted by such Boards.

The diversity of conditions is in certain respects less important than might at first appear for the following reasons:—

The Government of India exercises under the Indian Railways Act, 1890, in respect of all railways in British India (and also, by virtue of arrangements with Indian States, in respect of certain railways passing through such States), certain general powers. Thus a railway may not be opened until a Government Inspector has certified that it has been constructed so as to comply with requirements laid down by the Government and can be used for the public carriage of passengers without danger to them. The Government of India can also, in the interest of the safety of passengers, require a railway to be closed, or the use of particular rolling-stock to be discontinued, or may prescribe conditions for the use of the railway or the rolling-stock. They can appoint a Railway Commission to investigate complaints on certain matters such as the withholding of reasonable traffic facilities or the grant of undue preference.

In addition, the Government of India (or in some cases Local Governments) exercise under the provisions of contracts detailed control over the management of all Railways in British India greatly exceeding that which is secured by the Indian Railways Act. They also have a certain financial interest in all companies in British India, and a preponderating interest in most of the Railways which are of the first importance.

History of Relations of the Government and Companies.—The main causes which have led to the present diversity of conditions in regard to the agency by which railways are managed, and the relations of the Government with the various classes of companies now in existence, are summarised in the following paragraphs:—

The first proposals for the construction of railways in India were submitted in 1844 to the East India Company in England by Mr. R. M. Stephenson, afterwards Chief Engineer of the East Indian Railway, and others; they included the construction of lines by railway companies to be incorporated for the purpose and the guarantee by the East India Company of a specified return. A contract for the construction by the East Indian Railway Company of an experimental line of 100 miles from Calcutta towards Mirzapore or Rajmehal at an estimated cost of 1,000,000*l*. was made in 1849, and a return of 5 per cent. was guaranteed by the East India Company on the Capital; and a similar contract was made in the same year with the Great Indian Peninsula Railway Company for a line from Bombay to Kalyan at an estimated cost of 500,000*l*. But the policy of entrusting generally the construction of Indian railways to guaranteed companies was not adopted until 1854 on the recommendation of Lord Dalhousie, who, in a minute, dated 20th April 1853, explained his reasons for preferring the agency of companies, under the supervision and control of the Government, to the construction of lines on behalf of the Government by its own officers. He held that the State Engineer officers would make railways as well, and possibly as cheaply, and as expedi-

* Includes the Delhi Umballa Kalka and Southern Punjab Railways which were purchased by the Secretary of State on 31st March 1926 and 1st January 1930 respectively.

tiously as companies; but that the withdrawal from other duties of the large number of officers required would be detrimental to the public interest, that the conduct of commercial undertakings did not fall within the proper functions of any Government and least of all within the functions of the Government of India, since the dependence of the population on the Government was, in India, one of the greatest drawbacks to the advance of the country, and that the country would therefore benefit by the introduction of English energy and English capital for railway purposes, with the possibility that such energy and capital would in due course be encouraged to assist in the development of India in other directions.

Old Guaranteed Railways.—The policy supported by Lord Dalhousie was adopted, and between 1854 and 1860 contracts for the construction of Railways in India were made by the East India Company, or (after 1858) by the Secretary of State for India with the East Indian, Great Indian Peninsula, Madras, Bombay, Baroda and Central India, Sind (afterwards, the Sind, Punjab and Delhi), Eastern Bengal, Great Southern of India (afterwards, when amalgamated with the Carnatic Railway Company —see below—the South Indian) and Calcutta and South-Eastern Railway Companies. Under these contracts the railway companies undertook to construct and manage specified lines, while the East India Company (or the Secretary of State for India) agreed to provide land and guaranteed interest on the capital, the rate fixed being in various cases 5, $4\frac{3}{4}$ and $4\frac{1}{2}$ per cent. according to the market rates prevailing when the various contracts were made. Half of any surplus profits earned was to be used towards repaying to the Government any sums by which it had been called upon to supplement the net earnings of any previous period in order to make good the guarantee of interest; and the remainder was to belong to the shareholders. In practically all matters of importance except the choice of staff, the companies were placed by the contracts under the supervision and control of the Government which had power to decide on the standard and details of construction; the rolling-stock to be provided, the number, time and speed of trains; the rates and fares to be charged; the expenditure to be incurred; the standard of maintenance; and the form of accounts. The railways were to be held by the companies on leases terminating at the end of 99 years, and on such termination the fair value of their rolling-stock, plant and machinery was to be paid to them. But provision was also made to enable the Government to purchase the lines after 25 or 50 years on terms calculated to be the equivalent of the companies' interest therein and also to enable the companies to surrender their lines to the Government and to receive in return their capital at par.

Early Attempts to Secure Funds for Railway Construction without a Guarantee.—An attempt to secure the construction of railways in India, on terms more favourable to the Government than those of the contracts with the original guaranteed companies, was first made in 1862, when a subsidy, but not a guarantee, was granted to the Indian Branch Railway Company which proposed to make feeders to the trunk lines in Northern India, and did actually make one such line. Similar assistance was granted later to the Indian Tramway Company, which made a short line in Madras. In 1864, the terms granted to the two companies mentioned were taken as a standard for general adoption with a view to the encouragement of similar companies. The chief provisions were that the Government, besides giving the necessary land free of costs, would grant an annual subsidy for 20 years at a rate not exceeding £100 per mile of line with an addition in respect of large bridges costing more than £10,000. These terms failed to attract capital, and the two unguaranteed companies which had begun work found themselves after a few years unable to proceed without further assistance from the Government. Consequently, in 1867, a contract was entered into with the Indian Branch Railway Company (which soon after changed its name to the "Oudh and Rohilkhand Railway Company") by which the company was guaranteed interest at 5 per cent. per annum on the cost of certain lines to be carried out by it, on conditions similar to those laid down in the contracts of the period 1854—1860. Similarly, the Indian Tramway Company, after having been given in 1868 a guarantee of 3 per cent. per annum, went into liquidation in 1870, and became absorbed in a new company called the Carnatic Railway Company (afterwards amalgamated with the Great Southern of India Railway Company to form the South Indian Railway Company), with which the Secretary of State entered into a contract guaranteeing interest on its capital at 5 per cent. per annum. In 1869, Sir John Lawrence summed up the result of the experiment of the construction of railways by unguaranteed companies as follows:—"The Government of India has for several years been striving to induce capitalists to undertake the construction of railways in India at their own risk, and on their responsibility with a minimum of Government interference. But the attempt has entirely failed, and it has become obvious that no capital can be obtained for such undertakings otherwise than under a guarantee of interest fully equal to that which the Government would have to pay if it borrowed directly on its own account."

The attempt to encourage unguaranteed companies having thus been unsuccessful, it became necessary to decide whether the old practice of relying on guaranteed companies, of the type that had provided capital for, and had constructed, the first railways

in India, should be continued. The Government of India expressed their objections to this course. They doubted whether their power of control over such companies secured the greatest possible economy in construction. They also disliked the arragements under which they guaranteed the interest on the capital of companies, and thus became responsible for loss on working while having only a comparatively remote prospect of profiting by the result of successful working. Two important changes were consequently made in the practice that had been followed since the beginning of railway construction in India:—

1. Arrangements were made with some of the most important of the guaranteed companies that, in lieu of the provision that half of any surplus profits was to be applied in repayment of sums advanced by the Government under the guarantee of interest, half of the surplus profits for each half-year should be the property of the Government. In consideration of this modification, the Government relinquished, in the case of three companies, the Great Indian Peninsula, the Bombay, Baroda and Central India and the Madras, its right to purchase the lines at the end of the first 25 years from the dates of the respective contracts.
2. It was decided by the Secretary of State that the time had arrived when in both raising and expending such additional capital as might be required for new lines in India, the Government should secure to itself the full benefit of its own credit and of the cheaper methods which it was expected that it would be able to use. Accordingly, for several years after 1869, the capital expenditure on railways was chiefly incurred direct by the State and no fresh contracts with guaranteed companies were made except for small extensions. Among the lines constructed or begun by State agency and from State capital between 1869 and 1880 were the Indus Valley, Punjab Northern, Rajputana-Malwa, Northern Bengal, Rangoon and Irrawady Valley and Tirhoot.

Progress in the Construction of Railways.—By the end of 1879, in about 25 years from the introduction of railways in India, 6,128 miles of railway had been constructed by companies which had expended, approximately, £97,872,000 (these figures include the Calcutta and South-Eastern and Nalhati Railways which were constructed by companies but were purchased by the Government in 1868 and 1872, respectively). By the same date 2,175 miles of railway had been constructed by the Government at a cost of £23,695,226.

Introduction of Modified Guarantee Terms.—In 1880, the necessity for great and rapid extension of the railway system was urged by the Famine Commissioners, appointed after the great famine of 1878, who estimated that at least, 5,000 miles were still necessary for the protection of the country from famine. It was held by the Government of the time that a limit was necessary on the capital borrowed annually; and it was clear that the limit fixed was not high enough to allow of such progress in railway construction as was desirable. With reference to this difficulty the Famine Commissioners remarked: "that there would be manifest advantages in giving free scope to the extension of railways by private enterprise if it were possible; and, though the original form of guarantee has been condemned, it may not be impossible to find some substitute which shall be free from its defects, and may secure the investment of capital in these undertakings without involving the Government in financial or other liabilities of an objectionable nature."

Action in the direction suggested by the Commission was taken by the formation of three companies without a guarantee (the Bengal Central in 1881 and the Bengal and North-Western and Rohilkund and Kumaon in 1882), and three new guaranteed companies (Southern Mahratta in 1882, the Indian Midland in 1885, and the Bengal-Nagpur in 1887). The Bengal and North-Western and the Rohilkund and Kumaon Railway Companies are referred to more fully, in a later paragraph. The Bengal Central Railway Company's operation were not successful at the outset, and a revised contract was entered into with the company, with effect from the 1st July 1885, under which the Secretary of State guaranteed interest at 3½ per cent. on the company's capital the balance of net earnings remaining after payment of interest on advances by the Secretary of State and debenture capital (but not the share capital) being divided between the Secretary of State and the company in the proportions of three-quarters to the former and one-quarter to the latter. The new contract gave the Secretary of State the right to take possession of the line on the 30th June 1905, or subsequently at intervals of 10 years, on repaying the company's capital at par. The rate of interest guaranteed to the Southern Mahratta Railway Company was also 3½ per cent.; in this case the balance of net earnings remaining after payment of interest on advances by the Secretary of State (but not on share or debenture capital) was divisible in the same way as in the case of the Bengal Central Railway Company. The guarantee to the Indian Midland and Bengal-Nagpur Railway Companies was 4 per cent.; and the Secretary of State was entitled to three-quarters of the surplus profits in excess of all interest charges. The lines constructed by the three companies last mentioned were declared to be the property

of the Secretary of State, who had the right to determine the contracts at the end of approximately 25 years after their respective dates, or at subsequent intervals of 10 years, on repaying at par the capital provided by the companies.

The Assam Bengal Railway Company was formed on similar lines in 1892, except that any surplus profits were to be divided between the Secretary of State and the company in proportion to the capital provided by each. The rate of guarantee in this case was 3½ per cent. for the first six years and thereafter 3 per cent.

The terms of guarantee given to the companies formed since 1880 have thus been much more favourable to the Government than in the case of those formed before 1869.

Termination of Contracts of the Old Guaranteed Companies.—In dealing with the guaranteed companies formed before 1869 and with those formed in 1881 and subsequently, it has been the practice (except in the cases mentioned above, when the purchase of some of the old guaranteed lines was postponed in order to secure to the Government a share in surplus profits) to use in some way or other at the earliest possible date the right reserved by the Government of terminating the contracts of the various companies. The method of making use of this right has differed in different cases. The Eastern Bengal, the Oudh and Rohilkhand, the Sind-Punjab and Delhi and the Southern Punjab lines were purchased and transferred to State management, the last two now forming part of the North Western Railway. Similarly, the Bengal Central line was purchased and made part of the Eastern Bengal Railway. The Madras and the Indian Midland lines were acquired but left, after acquisition, under the management of companies working other lines with which it was advantageous to amalgamate them. In the cases of South Indian, Bombay, Baroda and Central India, Southern Mahratta, and Bengal Nagpur, the course adopted has been to arrange for the continuance of management by the original company (or by a new company closely related to the old one), but to secure more favourable financial conditions for the State by one or more of the following methods:—reduction of the amount of capital retained by the companies in the undertakings, reduction of the rate of interest guaranteed by the State on such capital and modification in favour of the Government of the clauses relating to the division of surplus profits. This method was adopted also in regard to the East Indian and the Great Indian Peninsula Railways, but the contracts under which they were being worked having terminated on the 31st December 1924 and the 30th June 1925 respectively, the management of these lines has been taken over by the State from those dates. Similarly the management of the Burma Railways was taken over by the State on the termination of the contract with the Burma Railways Company on the 31st December 1928.

Arrangements between the Government and Companies at present.—The relations between the Government and the guaranteed companies now working railways may be summarised as follows:—

The lines that they work are the property of the State.

The greater part of the capital is the property of the Government, either through having been originally supplied by it or through the acquisition by the Government of the greater part of the companies' interests on the termination of old contracts.

When funds are required for further capital expenditure, the Government has the option either of providing them or of calling on the company to provide them. Both the Government and the company usually receive interest at a fixed rate on their capital and surplus profits are divided between the Government and the company in the various proportions provided for by the contracts. The company's share is in most cases only a small proportion of the total amount.

All the contracts are terminable at the option of the Secretary of State, at specified dates; and on termination the company's capital is repayable at par.

The administrative control exercised by the Government over the companies is as follows:—

The company is bound to keep the line in good repair, in good working condition, and fully supplied with rolling-stock, plant, and machinery; to keep the rolling-stock in good repair and in good working condition; and to maintain a sufficient staff for the purposes of the line;—all to the satisfaction of the Secretary of State.

The Secretary of State may require the company to carry out any alteration or improvement in the line, or in the working that he may think necessary for the safety of the public or for the effectual working of the line.

The Secretary of State may require the company to enter into agreements, on reasonable terms and conditions, with the administrations of adjoining railways for the exercise of running powers, for the supply to one another of surplus rolling-stock, for the interchange of traffic and rolling-stock and

the settlement of through rates, and for additions and alterations to, or the redistribution of, existing accommodation in junctions or other stations in view to their convenient mutual use.

The train service is to be such as the Secretary of State may require. In order to secure a general control over the rates quoted by companies, the Secretary of State has retained power to settle the classification of goods and to authorise maximum and minimum rates within which the companies shall be entitled to charge the public for the conveyance of passengers and goods of each class.

The company has to keep such accounts as the Secretary of State may require, and these are subject to audit by the Secretary of State.

In all other matters relating to the line the company is made subject to the supervision and control of the Secretary of State, who may appoint such persons as he may think proper for the purpose of inspecting the line, auditing the accounts, or otherwise exercising the powers of supervision and control reserved to him. In particular, the Secretary of State has the right to appoint a Government Director to the Board of the company, with a power of veto on all proceedings of the Board. All the moneys received by the company in respect of the undertaking, whether on capital or revenue account, have to be paid over to the Secretary of State.

All expenditure by the company has to be stated and submitted for the sanction of the Secretary of State.

Thus, the Government has the preponderating financial interest in the lines worked by the two classes of guaranteed companies, those formed before 1869 and retained as working agencies with reduced capital after purchase, and those formed on terms more favourable to the State after 1880; it has exceedingly wide control over the methods of working; and it has the right of taking possession of the lines at specified times on repayment at par of the capital of the companies.

Other Lines worked by Companies.—In addition to the lines referred to above, and apart from lines constructed by Branch line companies, District Boards and Indian States, two lines of some importance have been constructed by companies which receive no direct assistance by the Government, namely, the Bengal and North-Western Railway and the Rohilkund and Kumaon Railway. (The Rohilkund and Kumaon Railway Company was guaranteed interest at 4 per cent. during construction and received for 10 years thereafter a subsidy of Rs. 20,000 per annum. This ceased in 1894.) While, however, these companies have no guarantee or other direct payment from the Government, they derive some advantage (partly through direct participation in profits and partly through reduction of expenses) from the fact that the working of certain State lines has been entrusted to them, the Tirhoot Railway to the former company and the Lucknow-Bareilly Railway to the latter. Their lines can be purchased by the State in 1932 on terms which are different in respect of the different sections of the lines, but are, on the whole, much more favourable to the companies than those provided for in the contracts with the guaranteed companies. Failing purchase in 1932, the lines will become the property of the State in 1981 on payment of certain amounts. The general administrative control exercised by the State over these companies and the control over expenditure are similar to that which is exercised, as explained above, over guaranteed companies.

APPENDIX C.

The Organisation for Government control.

The initial policy of the Government of India for the construction and working of railways was the establishment of guaranteed railway companies of English domicile. Control over the operations of these companies was at first secured through the appointment of a Consulting Engineer of Guaranteed Railways. Some years later local Consulting Engineers were appointed for the exercise of control over guaranteed railways and over State-owned railways in the construction of which the State had been financially interested and which had been leased to companies for working. These officers combined the duties of supervision and control on behalf of the Government of India and of an Inspector under the Government of India Railway Act. The Government of India were not directly concerned with the ownership of railways until 1868 when the Calcutta and South Eastern Railway was surrendered to the Indian Government under the terms of the contract between the Secretary of State and the Company.

Owing to the Government of India having in 1869 definitely adopted the policy of direct construction and ownership of railways, a period of rapid development of railway construction ensued and it became necessary to relieve the Public Works Department Secretariat of the Government of India in some measure of the detailed control of railways. Accordingly in 1874 a State Railway Directorate was established and the greater portion of the State Railway establishment and business connected with State Railway Administration was transferred to the control of the Director of State Railways, an officer who functioned on much the same lines as the head of a department under the Government of India. The Consulting Engineer to the Government of India for State Railways was at the same time associated with him but all important matters had still to be referred to the Public Works Department. A special Deputy Secretary in the Railway Branch of the Secretariat of the Public Works Department was also appointed to conduct the correspondence between the Government of India and these officers.

Early in 1877 a further change was made in the organisation responsible for the administration and control of State Railways and in the place of one Director of State Railways three Directors of territorial systems and one Director of State Railways Stores were appointed. These territorial divisions comprised the following systems:—

Central	1,179 miles.
Western, and	927 miles.
North Eastern	830 miles.

This division of the administration on a territorial basis proved unsatisfactory in practice as it resulted in the issue of conflicting orders as far as the management of open lines was concerned although no difficulty was experienced in the supervision of new construction.

As the number of lines under construction had decreased and in order to remedy the defect just mentioned, it was decided in 1880 to abolish the Directors of the Central and Western Systems and to transfer the work allotted to them to the Consulting Engineers of the neighbouring guaranteed railways. The abolition of these two appointments resulted in an increase in the administrative work of the Secretariat and it was found necessary to raise the status of the Deputy Secretary to whom the powers previously exercised by the Directors had been entrusted, to that of Director General of Railways.

In the revised organisation the Consulting Engineer to the Government of India for State Railways was associated with the Director General of Railways and assisted the latter primarily in an advisory capacity in matters of civil engineering while the Director of Stores similarly acted in matters concerning stores and rolling-stock and at the same time was an adviser in matters affecting establishment. The Director of Traffic was appointed at the same time as an adviser on traffic problems and the accounts work of the department was placed under the Accountant General, Public Works Department.

Government control and supervision of the Guaranteed Railways continued to be exercised by the Local Consulting Engineers to Government. There were five such officers at the time with headquarters at Bombay, Madras, Calcutta, Lahore and Lucknow. The Consulting Engineers at Madras and Bombay worked directly under the Government of these Presidencies, while those at Calcutta, Lahore and Lucknow were under the immediate orders of the Government of India. Under this arrangement practically all powers affecting the finances and day to day management of the railways were vested either in the Consulting Engineers or in the Government, both

for the guaranteed railway companies and later on for State Railways which had been leased for working to railway companies.

The following is a list of the administrative appointments that existed in 1881:—

1. Member of the Governor General's Council, Public Works Department.
2. Secretary, Public Works Department.
3. Deputy Secretary, Railway Branch.
4. Under Secretary, Railway Branch.
5. Consulting Engineer of State Railways.
6. Director General of Railways.
7. Director of Construction.
8. Accountant General, Public Works Department.
9. Director of State Railways, Stores.
10. Three Assistants to the Director General of Railways.
11. Consulting Engineers for Guaranteed Railways at Calcutta, Lahore and Lucknow.
12. Deputy Consulting Engineers for Guaranteed lines, Calcutta, Lahore and Lucknow.

Madras and Bombay.

13. Joint Secretary, Railway Branch and Consulting Engineer for Railways.
14. Deputy Secretary, Public Works Department.

Punjab.

15. Secretary, Public Works Department.

By this time also Local Governments and Administrations had been induced to take a practical interest in the management of railways and in a few cases short extensions had been constructed from funds the interest of which Local Governments had accepted responsibility to pay. Such lines were controlled by the Local Governments concerned under the general supervision of the Government of India.

After 1881 further alterations of a more or less detailed character were made in the administrative organisation and by 1890 the following changes had taken place. Instead of a Deputy Secretary and Under Secretary, Railway Branch, there were then only an Under Secretary and an Assistant Secretary, Railways, in the General Branch. The posts of Director of State Railways, Stores, and Director of Construction had disappeared and in their place there was an Under Secretary, who was an *ex-officio* Deputy Director General of Railways. The post of Accountant General, Railways, had also been abolished and the Accountant General, Public Works Department, was once more made responsible for this work.

Further changes were made in 1897. In that year the post of Director General of Railways was abolished and the post of a Secretary to the Government of India in the Public Works Department was created in its place. The other administrative and secretariat appointments at the headquarters of the Government of India at the time were:—

(1) Director of Railway Construction, and Deputy Secretary and *ex-officio* Director of Stores.
(2) Director of Railway Traffic, and Deputy Secretary and *ex-officio* Director of Railway Statistics.
(3) Two Under Secretaries.
(4) Two Assistant Secretaries.
(5) One Mechanical Assistant.

The post of Consulting Engineer for State Railways was also abolished and his duties transferred to the two Directors. The supervision of the accounts work of the Department, however, still remained under the Accountant General, Public Works Department, who was also an *ex-officio* Deputy Secretary to the Government of India.

In October 1901, Sir Thomas Robertson, C.V.O., was appointed by His Majesty's Secretary of State for India in Council as Special Commissioner for Indian Railways to enquire into and report on the administration and working of Indian Railways. In his report, which became available in 1903, Sir Thomas recommended that the administration of the railways in India should be entrusted to a small Board consisting of a President or Chief Commissioner who should have a thorough practical knowledge of railway working, and should be a member of the Viceroy's Council for railway matters, and two other Commissioners who should be men of high railway standing

and should have a similar training to that of the President. He recommended that the Board should, in addition to the necessary office establishment, be provided with—

(1) A Secretary who should have received a suitable training in the practical working of railways, and who should be *ex-officio* a Secretary to the Government of India.

(2) A Chief Inspector of Railways, to advise on all technical, engineering and mechanical questions.

(3) A suitable number of Government Inspectors.

Sir Thomas Robertson's recommendations were carefully considered by the Governor General in Council and the Secretary of State, and early in 1905 it was decided that the Railway Branch of the Public Works Department of the Government of India should be abolished and that the control of the railway systems in India should be transferred to a Railway Board consisting of three persons, a Chairman and two Members. The Chairman of the Board was vested with the general control of all questions committed to the Railway Board with power to act on his own responsibility subject to confirmation by the Board. The Railway Board were authorised to delegate to the Chairman or a member the power of settling questions which might arise on any tour of inspection, such decision to be recorded subsequently as an act of the Railway Board. The Board was made subordinate and directly responsible to the Government of India in the Department of Commerce and Industry.

The Railway Board assumed office in March 1905 and were provided with the following establishment:—

1. Secretary.
2. Examiner of Accounts.
3. Under Secretary, Construction.
4. Under Secretary, Traffic.
5. Registrar.
6. Director of Railway Construction.

Certain changes were, however, made in the following year and the establishment then consisted of:—

1 Secretary.
3 Assistant Secretaries; one each for Establishment, Construction and Traffic.
1 Registrar.
1 Director of Railway Construction.
1 Railway Accounts Officer.

Sir Thomas Robertson had further suggested in his detailed recommendations that extended powers, both administrative and financial, should be delegated to Boards of Directors of Companies, that the appointments of Consulting Engineers should be abolished and that the work which they performed under the Railways Act should be entrusted to a body of Government Inspectors to be appointed for the purpose. These recommendations were given effect to in a modified form in 1908.

Within a short time after the constitution of the Railway Board, it was found that work was being hampered by having the Commerce and Industry Department between the Railway Board and the Governor General in Council and in October 1908 on the recommendations of the Railway Finance Committee presided over by Sir James Mackay (now Lord Inchcape), the following changes were introduced:—

1. The appointment of the Chairman of the Railway Board was changed into that of President of the Railway Board and enhanced powers were vested in the President.
2. The Board with its staff became collectively the Railway Department distinct from and independent of the Department of Commerce and Industry, though remaining under the administrative charge of the Hon'ble Member, Commerce and Industry Department, as the Railway Member.
3. The President of the Board was given direct access to the Viceroy as if he were a Secretary to the Government of India.

At the same time in consequence of the amalgamation of the Public Works Department Accounts and Civil Audit Establishments under the control of the Finance Member of the Government of India the appointment of Accountant General, Public Works Department, was abolished and the appointment of Accountant General, Railways, was revived.

In 1909 the post of Director of Railway Construction was abolished and the appointment of Chief Engineer with the Railway Board for the purpose of advising the Railway Board on technical matters connected with Civil Engineering was created.

In January 1914, it was decided that the importance of financial and commercial considerations in connection with the control of Indian railway policy justified a modification of the rule that the President and Members of the Railway Board should all be men of large experience in the actual working of railways. It was then decided that in future one member who equally with the others might be appointed President should be selected for commercial and financial experience and a member with the necessary qualifications was appointed.

This arrangement was, however, altered in 1920 when it was decided that all the three members of the Board should possess railway experience. To assist the Board, however, in the consideration of financial questions, the post of Financial Adviser to Railway Board was created.

Owing to the expansion of railways in India and the increased work thrown on the Board a second Assistant Secretary, Engineering, was appointed in 1914, and in 1916 the duties of the Construction Branch were divided between one branch dealing with Projects under an Assistant Secretary and a second branch dealing with Way and Works which was sometimes under a separate officer and at other times under the Secretary or Chief Engineer. In 1922 the charge of the Way and Works branch was divided between the Assistant Secretary in charge of Projects and the Assistant Secretary in charge of Stores.

In November 1922, the Board's establishment was strengthened by the appointment of a Chief Mechanical Engineer. This appointment was created to enable the Board to have at headquarters a reliable adviser on matters connected with mechanical engineering.

During 1921 a Committee presided over by Sir William Acworth visited India and one of the questions referred to was the evolution of a satisfactory authority for the administration of the varied functions which the Railway Board had to perform as:—

(*a*) the directly controlling authority of the three State-worked systems aggregating 9,028 miles,

(*b*) representative of the predominant owning partner in systems aggregating 22,949 miles,

(*c*) the guarantor of many of the smaller companies,

(*d*) the statutory authority over all railways in India.

The Acworth Committee recommended in their report:—

(1) that a new Department of Communications responsible for railways, ports and inland navigation, road transport and posts and telegraphs under a Member of Council in charge of Communications should be created,

(2) that under the Member of Council for Communications there should be a technical staff consisting on the railway side of a Chief Commissioner and four Commissioners and that of the four one should be in charge of finance and the organisation and staff of the office and the other three Commissioners should be in charge of three respective divisions, Western, Eastern and Southern,

(3) that the technical staff attached to the Commission should be strengthened specially on the traffic side.

The Government of India, though they did not accept the first recommendation of the Acworth Committee, agreed to the re-organisation of the Railway Board being undertaken on the principles underlying the report of the Acworth Committee. The appointment of a Chief Commissioner was accordingly sanctioned in November 1922, and in accordance with the recommendations of the Acworth Committee he is solely responsible, under the Government of India, for arriving at decisions on technical questions and advising the Government of India on matters of Railway policy; he is not liable to be over-ruled, as the President was, by his colleagues in the Railway Board.

The first duty of the Chief Commissioner was to work out detailed proposals for the re-organisation of the Railway Board and as a first step he made recommendations to the Government of India for the immediate appointment of a Financial Commissioner. This recommendation was strongly endorsed by the Indian Retrenchment Committee and the appointment of the Financial Commissioner was made in April 1923 with the sanction of the Secretary of State. The further proposals of the Chief Commissioner for the re-organisation of the Railway Board were accepted by the Government of India and the Secretary of State and were introduced from the 1st April 1924. It was decided, however, for reasons connected with the present statutory position of the Railway Board, and to avoid confusion with the provisions for a Railway Commission under Chapter V of the Railways Act, to retain the name "Railway Board" for the headquarters organisation of the Railway Department instead of "Railway Commission" as recommended by the Acworth Committee.

The Railway Board as then reconstituted consisted of the Chief Commissioner as President, the Financial Commissioner and two Members, the Chief Commissioner being Secretary to the Government of India in the Railway Department. The proposal of the Acworth Committee that the Indian Railways should be sub-divided into three territorial divisions with a Commissioner in charge of each was not accepted, and the work of the Members of the Board was divided on the basis of subjects and not on a territorial basis. One Member dealt with technical subjects and the other with general administration, personnel and traffic subjects, the Financial Commissioner representing the Finance Department on the Board and dealing with all financial questions.

The reorganisation carried out in 1924 had for one of its principal objects the relief of the Chief Commissioner and the Members from all but important work so as to enable them to devote their attention to larger questions of railway policy and to enable them to keep in touch with Local Governments, railway administrations and public bodies by touring to a greater extent than they had been able to do in the past. This object was effected by placing a responsible Director at the head of each of the main branches of the Board's work, namely Civil Engineering, Mechanical Engineering, Traffic and Establishment. The former Chief Engineer and the Chief Mechanical Engineer who had been employed mainly in consultative work, became Directors and together with the Directors of Traffic and Establishment have been made responsible for the direct disposal of the work of their branches under the general orders of the Railway Board.

The posts of Joint Secretary and 4 Assistant Secretaries were replaced by 6 Deputy Directors working under the Directors and in charge of branches dealing with Establishment, Works, Projects, Stores, Statistics and Traffic. One Assistant Director was also added to supervise the Technical Branch and the Drawing Office. The disposal of the general work of the Railway Board was provided for by the continuance of the post of Secretary in whose name all letters and orders of the Board are issued. The position of the Board as a Department of Government of India has been maintained and it works under the Member for Commerce and Railways. As already stated the Chief Commissioner is the Secretary to the Government of India in the Railway Department and orders issued by the Board over the signature of the Secretary are orders of the Government of India.

Experience of the working of this organisation during 1924-25 and the decision agreed to by the Legislative Assembly in September 1924 to separate railway finances from the general finances of the country made it necessary to appoint a Deputy Director and an Assistant Director of Finance. An Assistant Director of Statistics was also added during that year. Later a Director of Finance was added to the establishment occupying, as regards disposal of work, the same position as the Directors referred to above.

Further experience of the reduction of work resulting from the large delegation of powers and responsibility to the Agents of State-managed Railways and the Board of Directors of Company-managed railways enabled a re-arrangement of work to be made during 1925-26 accompanied by a reduction in the staff. Under this re-arrangement the posts of 3 Deputy Directors, an Assistant Director and the Assistant Secretary were held in abeyance. The personnel work was transferred from the Director of Establishment to the Secretary and a temporary post of Deputy Secretary was created. Further a separate technical office was established to take charge of the technical work of the engineering branches. The Technical Officer also acted as *ex-officio* Secretary to the permanent Standardisation Committees which were appointed to deal progressively with all questions of standards of equipment.

This arrangement was found, however, to be inadequate. In addition to the general increase in work in the Railway Board's Office consequent on the taking over of the East Indian, Great Indian Peninsula and Burma Railways under State control labour problems had assumed such importance and were so rapidly increasing in number and complexity that it was not possible to deal with them effectively without the appointment of additional staff. Accordingly it was decided to create an additional post of Member of the Railway Board to deal with staff and labour questions; leaving the Member in charge of Traffic, who had hitherto been dealing with establishment matters, to devote his whole time to questions relating to the Transportation and Commercial aspects of Railway work.

It was also decided to revive the post of Deputy Director, Establishment, so as to free the Director of Establishment from this work, and thus enable him to give his time to the study of problems of railway labour. Of the two posts of Deputy Directors of Traffic and Statistics one was held in abeyance from 1925 and the two posts have since been amalgamated.

In October 1930 the compilation of statistical information which used previously to be done in the Board's office was entrusted to the Controller of Railway Accounts, and with the transfer of this work, the post of Assistant Director of Statistics was also transferred from the Railway Board's office to that of the Controller of Railway Accounts.

At the end of 1930-31, the sanctioned superior staff under the Railway Board therefore consisted of the Chief Commissioner, the Financial Commissioner, 3 Members, 5 Directors, 5 Deputy Directors, 1 Assistant Director, Secretary and a Deputy Secretary.

For the conduct of the work connected with the production of standard designs and specifications for all classes of materials, plant and rolling stock in use on Indian Railways, a Central Standards Office for Railways was formed in January 1930 for a period of 5 years as an experimental measure. On the formation of the above office the post of Technical Officer with the Railway Board was abolished.

APPENDIX D.

Resolution regarding the separation of railway from General Finances, adopted by the Legislative Assembly on the 20th September 1924.

"This Assembly recommends to the Governor General in Council that in order to relieve the general budget from the violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry out a continuous railway policy based on the necessity of making a definite return to general revenues on the money expended by the State on Railways.

(1) The railway finances shall be separated from the general finances of the country and the general revenues shall receive a definite annual contribution from railways which shall be the first charge on the net receipts of railways.

(2) The contribution shall be based on the capital at charge and working results of commercial lines, and shall be a sum equal to one per cent. on the capital at charge of commercial lines (excluding capital contributed by companies and Indian States) at the end of the penultimate financial year *plus* one-fifth of any surplus profits remaining after payment of this fixed return, subject to the condition that, if in any year railway revenues are insufficient to provide the percentage of one per cent. on the capital at charge surplus profits in the next or subsequent years will not be deemed to have accrued for purposes of division until such deficiency has been made good.

The interest on the capital at charge of, and the loss in working, strategic lines shall be borne by general revenues and shall consequently be deducted from the contribution so calculated in order to arrive at the net amount payable from railway to general revenues each year.

(3) Any surplus remaining after this payment to general revenues shall be transferred to a railway reserve; provided that if the amount available for transfer to the railway reserve exceeds in any year three crores of rupees only two-thirds of the excess over three crores shall be transferred to the railway reserve and the remaining one-third shall accrue to general revenues.

(4) The railway reserve shall be used to secure the payment of the annual contribution to general revenues; to provide, if necessary, for arrears of depreciation and for writing down and writing off capital; and to strengthen the financial position of railways in order that the services rendered to the public may be improved and rates may be reduced.

(5) The railway administration shall be entitled, subject to such conditions as may be prescribed by the Government of India, to borrow temporarily from the capital or from the reserves for the purpose of meeting expenditure for which there is no provision or insufficient provision in the revenue budget subject to the obligation to make repayment of such borrowings out of the revenue budgets of subsequent years.

(6) A Standing Finance Committee for Railways shall be constituted consisting of one nominated official member of the Legislative Assembly who should be chairman and eleven members elected by the Legislative Assembly from their body. The members of the Standing Finance Committee for Railways shall be *ex-officio* members of the Central Advisory Council, which shall consist, in addition, of not more than one further nominated official member, six non-official members selected from a panel of eight selected by the Council of State from their body and six non-official members selected from a panel of eight elected by the Legislative Assembly from their body.

The Railway Department shall place the estimate of railway expenditure before the Standing Finance Committee for Railways on some date prior to the date for the discussion of the demand for grants for railways and shall, as far as possible, instead of the expenditure programme revenue show the expenditure under a depreciation fund created as per the new rules for charge to capital and revenue.

(7) The railway budget shall be presented to the Legislative Assembly if possible in advance of the general budget and separate days shall be allotted for its discussion, and the Member in charge of railways shall then make a general statement on railway accounts and working. The expenditure proposed in the railway budget, including expenditure from the depreciation fund and

the railway reserve, shall be placed before the Legislative Assembly in the form of demands for grants. The form the budget shall take after separation, the detail it shall give and the number of demands for grants into which the total vote shall be divided shall be considered by the Railway Board in consultation with the proposed Standing Finance Committee for Railways with a view to the introduction of improvements in time for the next budget, if possible.

(8) These arrangements shall be subject to periodic revision but shall be provisionally tried for at least three years.

(9) In view of the fact that the Assembly adheres to the resolution passed in February 1923, in favour of State management of Indian Railways, these arrangements shall hold good only so long as the East Indian Railway and the Great Indian Peninsula Railway and existing State-managed railways remain under State management. But if in spite of the Assembly's resolution above referred to Government should enter on any negotiations for the transfer of any of the above railways to Company management such negotiations shall not be concluded until facilities have been given for a discussion of the whole matter in the Assembly. If any contract for the transfer of any of the above railway to Company management is concluded against the advice of the Assembly, the Assembly will be at liberty to terminate the arrangements in this Resolution.

Apart from the above convention this Assembly further recommends—

(*i*) that the railway services should be rapidly Indianised, and further that Indians should be appointed as Members of the Railway Board as early as possible, and

(*ii*) that the purchases of stores for the State Railways should be undertaken through the organisation of the Stores Purchase Department of the Government of India."

APPENDIX E.

Government of India, Railway Department, Resolution No. 2131-F., dated the 19th February 1925, on the subject of the financing of branch lines of railways.

The Governor General in Council, with the sanction of His Majesty's Secretary of State for India, is pleased to issue the following orders on the subject of Financing of Branch Lines, in suppression of all previous orders on the subject.

1. Branch and Feeder Lines are constructed under an agreement by which the State guarantees a minimum return on the capital, or alternatively, undertakes that the line shall receive, out of the earnings of the main line from traffic contributed by the branch, such a sum, known as a rebate, as will make up the total earnings of the branch to a given sum, while the branch in each case shares with the main line any profits exceeding the guaranteed minimum.

2. This method of encouraging the construction of lines originated 30 years ago simply because the Government of India was unable to furnish the necessary capital.

3. The Acworth Committee pointed out that this method, while enabling lines to be built which would otherwise not have been built, has no other merit. The financial terms usual before the war are now quite inadequate and if the system is to continue they will have to be revised. All the witnesses before the committee who asked for a revision of the terms admitted that, if the main line were in a position to build a given branch itself, they would prefer that it should be done by the main line rather than that it should be done as a separate undertaking.

4. Amongst the disadvantages pointed out by the Committee are the following:—

(*i*) The Branch Line Company is usually a fifth wheel to the coach. It implies in some cases a separate construction staff; it always implies a separate Board of Directors, and separate accounts.

(*ii*) Where the branch is worked by the main line, if its Directors feel that the management is unsatisfactory, they not only make representations to the main line administration, but in the last resort can appeal to the Railway Board which does not make for harmony.

(*iii*) Capital raised by a small private undertaking, even with a Government guarantee, will cost more than money raised by the State.

(*iv*) Inconceivable confusion results from the multiplication of independent Railway Companies—each company, small or great, desires to reserve for itself a separate sphere of influence; and jealously demands that, if any new-comer intrudes into that sphere, he shall pay toll to the original concessionaire. This only complicates a situation which ought to be cousidered solely from the point of view of the public interest. New proposals for the extension or connection of lines by small independent companies are either refused owing to protests by the old company or only permitted on a basis of elaborate accounting between the new company and the old for the profits which hypothetically would have belonged to the old line had the new line not been opened.

5. The only arguments urged in favour of the Branch Line Companies were:—

(*i*) That money had been raised which the Government of India was unable to furnish.

(*ii*) That a claim was made that the Branch Line Company obtained from local sources money that would never be subscribed to a Government loan.

(*iii*) That there may be cases of a Branch Line of smaller gauge *worked independently*, which the Branch Line Company can operate more economically than a main line.

6. The Acworth Committee, therefore, so far from approving of this system considered that the aim of the Government should be to reduce by amalgamation the number of existing companies and that it should only be in cases where the State cannot or will not provide adequate funds that private enterprise in the direction should be encouraged.

7. The disadvantages pointed out by the Acworth Committee required to be even further amplified. The existing Branch Line Companies have ceased for some time to raise additional capital for capital requirements. They have either obtained overdrafts from various Banks for this purpose at heavy rates of interest or issued debentures at special rates of interest (usually about 7 per cent.) or in several cases asked

for money to be advanced to them by the Railway Board. So far, therefore, from reducing the amount that the Government of India have to raise in the open market, they are at present increasing that amount.

8. Another serious disadvantage which is not mentioned by the Acworth Committee is that the main line usually works the Feeder or Branch Line for a remuneration which, in most cases, is limited to a maximum of a fixed percentage of the gross earnings of the Branch Line (usually 40 per cent. or 50 per cent.)—terms of remuneration which at present are grossly inadequate. The result of this arrangement is that many of the main lines whose working expenses are from 60 to 80 per cent. of the gross earnings are saddled with heavy expenditure which ought to have been debited to Branch Line Companies. Where the Branch Line Companies are "successful", that is, where the shares stand at a high figure, their profits are inflated owing to their working expenses being thus artificially reduced. Again, where in the case of less "prosperous" Branch Line Companies, the Government has to make a direct subsidy in order to make up the guaranteed interest on the capital, the amount paid by way of subsidy does not reveal the true loss of the Government in connection with the Branch Line Company. To this subsidy should be added also the additional loss incurred from the main line working the Branch Line at less than the actual cost. Even this, however, does not give a complete statement of the loss sustained by Government in connection with these Companies. These Companies have been supplied with land free of charge and the cost of such land is not taken into account either in the Capital or the Revenue Accounts of the Companies concerned.

9. The only real argument in favour of these Companies is that they must be utilised in cases where the Government itself is unable or declines to raise the necessary amount of capital for new constructions. It is doubtful whether such a position is likely to recur in the future. It is admitted that to use the agency of these Companies is a far more expensive method of raising money for the construction of railways than direct Government loans can ever be. The amount of assistance given by Branch Line Companies in the past has been trivial; the total amount of capital raised through the agency of Branch Line Companies has only been about Rs. $10\frac{3}{4}$ crores—an amount which in itself is less than the lapse that occurred last year in the provision for capital expenditure in the Railway Budget.

10. The difficulties and complications now experienced in connection with these Branch Line Companies are out of all proportion to the insignificant financial facilities offered by the Companies. The Government of India have therefore decided that the Branch line policy should be abandoned and that an endeavour should be made to reduce the number of the existing Branch Line Companies. If on any occasion the Government of India should be unable to find funds for construction (which is not the case at present), and should it be considered advisable to tap fresh sources for subscription to railway loans by offering terms different from those given to the ordinary Government loans, that is, by offering not only a fixed rate of interest, but a share in the profits of a particular Branch Line, there appears to be no particular advantage of using a financial half-way house specially to float a loan on such terms; there appears to be no reason why the Government should not float the loan direct. But it will probably be found sufficient to raise short term debentures at a high rate of interest—to be liquidated when the loan market is favourable—a procedure adopted now by the Branch Line Companies, but at a higher rate of interest than would be necessary for the Government.

11. There remains the case of the District Board Railways for which some of the capital or the security for the captial is secured by a special cess levied by the District Board throughout the district.

The Acworth Committee pointed out that where a District Board was the promoter of a new Branch Line, considerations other than purely commercial came into play with the result of further complications and confusion. In a footnote to the report they referred to the views expressed by the Madras Government who had drawn attention to a case in which, although no short-circuiting was involved, there had been a delay of over 10 years in arriving at a decision in regard to the terms for working a District Board Railway by the South Indian Railway Company. The amount of capital raised by District Boards for such lines has been only Rs. 137 lakhs while the amount raised by Company lines subsidised by District Boards amounts to Rs. $2\frac{1}{4}$ crores. These amounts are insignificant as compared with the total capital raised by the Government and it is clear that the relief afforded to the Government of India in raising the loans is quite disproportionate to the great complications which have resulted in the working of the railway administration. Loans raised direct by the District Boards do not relieve the market of the Government of India; the money is ultimately borrowed from the Government of India.

12. The legal position regarding the powers of District and Local Boards in the matter of railway construction and management depends in part on the Indian Railways Act, 1890, which, in the absence of express exclusion of its application, extends to all District Board railways and, in part on the nature of the provision made in the

matter in the District or Local Boards Act of the province concerned. It is only in the Madras Presidency that the question has assumed prominence and it will suffice to indicate briefly the nature of the provisions contained in the Madras Local Boards Act, 1920. Action under section 113 of that Act can only be taken " with the previous sanction of the Government of India." Having obtained such sanction, a District Board may either itself construct and maintain a railway within, or partly within, the local area under the control of the Board, or may subscribe to any debenture loan raised by the Government of India or by any other local authority or by any company for the construction or maintenance of any railway which the Board considers likely to be of benefit to the district, or may guarantee the payment from the district fund of such sums as it shall think fit as interest on capital expended on any such railway (that is, whether the railway is constructed by the Government of India or by any other local authority or by a Company).

Section 236 of the same Act provides that the accumulations of a local railway cess may be utilised for all or any of the purposes specified in section 113, including the guaranteeing of payment of interest on capital spent on a railway.

A District Board in Madras, therefore, can guarantee the payment from the district fund of the money sufficient to make up minimum interest on capital expended on a railway within its area whether such railway is constructed by the Government of India or by a Company, the only disadvantage attaching to this particular form of guarantee being that the Act does not make the payment of the guaranteed interest a first charge on the District Board Fund.

13. The Government of India could not reasonably use their powers under the Indian Railways Act, 1890, or under, *e.g.*, section 113 of the Madras Local Boards Act, 1920, to prevent a District Board or a local body from constructing a light railway or a tramway which had no physical connection with any existing main line and which that local body proposed to work itself or through a local company. But as things stand at present there is no reason for continuing the practice under which District Boards are allowed to make money out of Branch Lines connected with a main line when they themselves cannot make any arrangements for the working of the lines and require to have them run by the main lines.

14. These District Board railways must not be confused with the light and feeder railways which constitute a provincial subject under the Devolution Rules. The provincial subject in question comprises " light and feeder railways and extra-municipal tramways in so far as provision for their construction and management is made by provincial legislation." That is to say, it comprises only individual light or feeder railways or extra-municipal tramways for the construction and management of which specific provision has been made by an Act of the local legislature of the province concerned. Hitherto, no such legislation has been enacted with the result that the entry in question in the provincial schedule, as also the qualifying words to entry 5 (*a*)* in the central schedule, have no operation, and all existing railways of every description are included in the central subject defined in the last-named entry. It should also be observed that the provincial subject in question is " subject to legislation by the Indian Legislature in the case of any such railway or tramway which is in physical connection with a main line or is built on the same gauge as an adjacent line ", the effect being that a provincial bill designed to provide for the construction of a light or feeder railway or extra-municipal tramway in physical connection with a main line or built on the same gauge as an adjacent main line would require the previous sanction of the Governor General under clause (*f*) of sub-section (3) of section 80 A of the Government of India Act; and it may be presumed that few occasions are likely to arise in which provision will be made by local legislation for the construction of a light or feeder railway not answering one or other of these descriptions.

15. The proposal set forth in this Resolution is not designed to evade the legitimate operation of the legal position described, in the case of District Board railways, in paragraph 12 and in the case of provincial light and feeder railways, in paragraph 14; but it follows from the proposal that Local Governments and District or Local Boards should not, in the absence of special circumstances, be encouraged to build branch or feeder lines. In other words, the normal procedure will be the construction by the Government of India, or, at its cost, by a Company, of a branch line which a District Board or Local Government desires to have constructed and is prepared to guarantee. But, should the railway programme not permit the construction of such a line within a reasonable time, the possibility of permitting a District Board or Local Government to construct it from its own funds would require consideration.

Unremunerative Lines.

16. The above proposals relate to the procedure adopted in the past and the procedure which it is proposed to adopt in the future for the financing of the con-

* " Railways and extra-municipal tramways, in so far as they are not classified as provincial subjects under entry 6 (*d*) of Part II of this Schedule."

struction of branch or feeder lines expected to prove remunerative from the point of view of railway earnings only. But there are cases where the Local Governments or local authorities may desire that a line should be constructed which will not be remunerative on railway earnings and the construction of which is desired by them for purely local reasons on account of the administrative advantages it is likely to confer or for the development of a particular area. It is proposed that in future the Railway Board in such circumstances should have power to arrange for the construction of the line from railway funds if the Local Government or the local authority guarantees the Railway Board against loss. The guarantee would be to the effect that the local authority would make up the difference between the net earnings and the interest and other charges payable. As it is not desirable that the Central Government should make any profit out of such contributions by local authorities, it is also proposed that where contributions have been made by a local authority for this purpose the repayment of such contributions should be a first charge on any net profits subsequently realised from the line, should the line prove remunerative.

17. The Central Government must, however, retain the power to decide whether a line is to be built or not; the proposals in the preceding paragraph must not be taken to imply that a Local Government by giving a guarantee can require the Railway Board to construct a line. Proposals of a Local Government might run counter to the general railway policy or might take the form of short-circuiting railway traffic and so lead to a reduction of receipts from existing lines.

18. These proposals have been circulated to Local Governments and have been generally welcomed by them as affording a suitable method of reconciling central and local interests and of providing for local bodies and Local Governments a method of securing the construction of railways which may be required for purely local reasons, and which, while not likely to prove remunerative on purely railway earnings, are likely to provide such indirect benefits to Local Governments and local bodies as will more than repay the amounts paid under the guarantee. Several such arrangements have already been made with Local Governments.

APPENDIX F.

Statement of Gazetted Officers and Officers of corresponding rank employed on Class I Railways, Railway Board and other Railway Offices (excluding H. E. H. the Nizam's State and Jodhpur Railways) on the 1st April 1931 as compared with 1st April 1930.

Item.	A. B.		B. N.		B. & N. W.		B., B. & C. I.		BURMA.		E. B.		E. I.		G. I. P.		M. & S. M.		N. W.		R. & K.		S. I.		Ry. Board and Miscellaneous officers.		TOTAL.	
	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1. *Agency Department—*																												
1·01. Europeans	2	2	5	5	3	4	9*	10	3	3	4	4	6	6	5	6	6	5	7	6	..	1	3	3	4	5	57*	60
1·02. Statutory Indians—																												
(a) Hindus	..	..	2	2	..	..	..	..	..	..	1	1	1	1	1	1	2	1	2	1	..	..	3	3	..	..	12	16
(b) Muslims	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	1	1
(c) Anglo-Indians and domiciled Europeans.	..	..	1	1	..	..	..*	..	1	1	..	..	2	2	..	..	..	1	1	1	..	..	..	1	..	..	5*	7
(d) Other classes	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	1	..	..	1	..	..	..	..	..	..	..	3	2
(e) Total	..	..	3	3	..	..	..*	..	2	2	1	1	3	3	2	2	2	2	5	3	..	..	3	4	..	..	21*	20
1·03. GRAND TOTAL	2	2	8	8	3	4	9	10	5	5	5	5	9	9	7	8	8	7	12	9	..	1	6	7	4	5	78	80
2. *Accounts Department—*																												
2·01. Europeans	..	..	5	6	6	6	8	8	6	4	..	2	6	4	9	9	8	7	2	1	1	1	6	6	1	1	58	55
2·02. Statutory Indians—																												
(a) Hindus	..	..	6	6	2	1	1	2	2	1	8	5	11	9	3	1	2	2	17	17	2	2	6	8	7	4	67	58
(b) Muslims	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	4	..	..	..	..	1	1	3	5
(c) Anglo-Indians and domiciled Europeans.	..	..	1	1	..	..	2	1	..	1	1	2	11	6	1	1	2	1	2	2	..	..	..	..	..	1	20	16
(d) Other classes	..	..	..	..	..	..	3	3	..	..	..	..	..	..	1	1	1	1	6	3	..	..	..	..	1	..	12	8
(e) Total	..	..	7	7	2	1	6	6	2	2	9	7	22	15	5	3	5	4	27	26	2	2	6	8	9	6	102	87
2·03. GRAND TOTAL	..	..	12	13	8	7	14	14	8	6	9	9	28	19	14	12	13	11	29	27	3	3	12	14	10	7	160	142
3. *Engineering Department—*																												
3·01. Europeans	17	14	65	59	22	17	39	39	35	32	28	28	53	54	73	68	40	34	64	55	3	4	38	34	*19	14	496*	452
3·02. Statutory Indians—																												
(a) Hindus	8	7	17	16	2	3	14	15	3	2	14	13	36	38	7	5	14	15	50	53	..	..	20	20	1	1	186	188
(b) Muslims	2	2	2	2	1	2	..	..	1	1	1	1	6	6	3	4	..	..	6	7	..	1	2	2	..	..	24	28
(c) Anglo-Indians and domiciled Europeans.	3	3	12	8	1	1	4	..	6	4	3	3	9	7	1	..	1	1	5	5	..	..	1	2	..	3	46	37
(d) Other classes	1	1	2	2	..	..	3	2	..	..	2	1	5	3	6	4	..	..	8	11	..	..	4	2	..	..	31	26
(e) Total	14	13	33	28	4	6	21	17	10	7	20	18	56	54	17	13	15	16	69	76	..	1	27	26	1	4	287	279
3·03. GRAND TOTAL	31	27	98	87	26	23	60	56	45	39	48	46	109	108	90	81	55	50	133	131	3	5	65	60	*20	18	783*	731

* Revised figures.

APPENDIX F—contd.

Statement of Gazetted Officers and Officers of corresponding rank employed on Class I Railways, Railway Board and other Railway Offices ***(excluding H. E. H. the Nizam's State and Jodhpur Railways) on the 1st April 1931 as compared with 1st April 1930***—concld.

Item.	A. B.		B. N.		B. & N.-W.		B., B. & C. I.		BURMA.		E. B.		E. I.		G. I. P		M. & S. M.		N. W.		R. & K.		S. I.		Ry. Board and Miscellaneous officers.		TOTAL.	
	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
4, *Transportation*—																												
4·01. Europeans	7	7	30	29	14	12	27*	27	28	30	19	18	36	35	50	49	21	20	36	33	2	3	12	11	*12	10	294*	284
4·02. Statutory Indians—																												
(*a*) Hindus	3	4	10	12	2	1	7	7	..	..	8	8	5	5	6	5	9	10	11	17	..	..	5	9	*2	2	68*	80
(*b*) Muslims	1	1	4	5	..	1	2	2	..	..	5			8	1	2	..	..	5	5	1	1	..	1	4	3	30	34
(*c*) Anglo-Indians and domiciled Europeans.	4	3	3	3	..	..	4*	4	1	1	4	4	3	2	4	4	3	3	3	3	..	..	2	4	3	4	34*	35
(*d*) Other classes	..	..	..	2	..	..	5	5	6	6	..	..	1	1	..	..	..	..	1	2	..	..	..	..	2	2	15	18
(*e*) Total	8	8	17	22	2	2	18*	18	7	7	17	17	16	16	11	11	12	13	20	27	1	1	7	14	*11	11	147	167
4·03. GRAND TOTAL	15	15	47	51	16	14	45	45	35	37	36	35	52	51	61	60	33	33	56	60	3	4	19	25	*23	21	441*	451
5. *Commercial*—																												
5·01. Europeans	1	1	Included under Transportation.		2	2	Included under Transportation.						6	5	15	12	Included under Transportation.		10	14	Included under Transportation.		5	2	..	..	39	36
5·02. Statutory Indians—																												
(*a*) Hindus	..	..	..	..	..	..	..	..	..	..	..	..	1	1	6	5	..	..	2	4	..	..	7	4	..	..	16	14
(*b*) Muslims	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	3	..	..	..	..	..	..	5	3
(*c*) Anglo-Indians and domiciled Europeans.	..		..	..	..	..	..	..	..	..	..	..	5	4	2	2	..	..	..	8	..	..	1	1	..	..	8	10
(*d*) Other classes	..		..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	1	..	..	..	..	..	..	..	2	1
(*e*) Total	..	..	..	..	..	..	..	..	..	..	..	..	6	5	9	8	..	..	8	10	..	..	8	5	..	..	31	28
5·03. GRAND TOTAL	1	1	..	..	2	2	..	..	..	..	..	..	12	10	24	20	..	..	18	24	..	..	13	7	..	..	70	64
6, *Mechanical Engineering*—																												
6·01. Europeans	9	8	26	26	12	14	32	31	23	20	22	21	43	42	22	22	23	24	40	42	4	3	18	17	7*	4	281*	274
6·02. Statutory Indians—																												
(*a*) Hindus	..	..	1	4	..	..	1	3	..	..	3	4	7	10	5	6	1	1	4	5	..	..	4	4	..	..	26	37
(*b*) Muslims	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	..	..	..	..	..	..	2	4
(*c*) Anglo-Indians and domiciled Europeans.	1	1	..	..	..	..	..	..	1	2	..	..	3	3	..	..	..	..	4	2	..	..	..	..	..	1	9	9
(*d*) Other classes	..	..	..	1	..	..	..	..	..	..	2	2	1	2	1	1	1	1	..	..	..	..	..	..	..	..	5	7
(*e*) Total	2	2	1	5	..	..	1	3	1	2	5	6	11	15	6	7	2	2	9	10	..	..	4	4	..	1	42	57
6·03. GRAND TOTAL	11	10	27	31	12	14	33	34	24	22	27	27	54	57	28	29	25	26	49	52	4	3	22	21	7*	5	325*	331

7. *Stores Department*—																												
7·01. Europeans	1*	1	6	6	1	1	7	7	1	2	2	3	7	8	4	4	6	6	9	8	..	..	3	3	..	..	47*	49
7·02. Statutory Indians— (a) Hindus	..	..	1	1	..	..	1	1	2	2	1	1	1	1	..	..	1	1	2	3	..	..	..	1	..	..	9	11
(b) Muslims	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	2	2
(c) Anglo-Indians and domiciled Europeans.	.. *	..	2	2	1	1	..	..	1	1	3	2	5	4	1	..	..	..	..	..	..	..	2	2	..	..	15*	12
(d) Other classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1
(e) Total	.. *	..	3	3	1	1	1	1	3	3	4	3	6	5	3	2	2	2	2	3	..	..	2	3	..	..	27*	26
7·03. GRAND TOTAL	1	1	9	9	2	2	8	8	4	5	6	6	13	13	7	6	8	8	11	11	..	..	5	6	..	..	74	75
8. *Other Departments*—																												
8·01. Europeans	10	10	16*	16	3*	3	14*	13	5*	5	1	1	42*	40	7*	9	11*	11	1*	..	..*	..	6*	6	21*	20	137*	134
8·02. Statutory Indians— (a) Hindus	5	5	1*	1	..*	..	2*	2	..*	..	4*	4	12*	12	4*	3	2*	2	2*	2	..*	..	1*	3	5*	7	38*	41
(b) Muslims	..	..	..	..	..	..	..	..	..	..	1	1	1	1	..	..	..	..	1*	1	..	..	..	..	1*	..	4*	3
(c) Anglo-Indians and domiciled Europeans,	2	2	1*	1	..	..	..*	..	..*	..	..*	..	5*	7	2*	1	..*	..	..*	..	..	..	..	..	7	6	17*	17
(d) Other classes	..	..	..	..	..	..	3*	3	..	..	..	..	1	1	1*	1	2*	2	1*	1	..	..	..	..	1*	..	9*	8
(e) Total	7	7	2*	2	..*	..	5*	5	..*	..	5*	5	19*	21	7*	5	4*	4	4*	4	..*	..	1*	3	14*	13	68*	69
8·03. GRAND TOTAL	17	17	18*	18	3*	3	19*	18	5*	5	6*	6	61*	61	14*	14	15*	15	5*	4	..*	..	7*	9	35*	33	205*	203
9. *Total*—																												
9·01. Europeans	47*	43	153	147	63	59	136*	135	101	96	76	77	199	194	185*	179	115	107	169*	159	10	12	91	82	64*	54	1,409*	1,344
9·02. Statutory Indians— (a) Hindus	16	16	38	42	6	5	26	30	7*	5	39	36	74	77	32*	26	31	32	90*	102	2	2	46	52	15*	14	422*	439
(b) Muslims	4	4	6	7	1	3	2	2	1	1	7	7	14	15	6	8	..	..	21*	24	1	2	2	3	6*	4	71	80
(c) Anglo-Indians and domiciled Europeans,	10*	9	20	16	2	2	10	5	10*	10	11	11	43	35	11	8	6	6	15	16	..	..	6	10	10	15	154*	143
(d) Other classes	1	1	2	5	..	..	14	13	7	7	4	3	8	7	11	9	5	5	18*	17	..	..	4	2	4	2	78*	71
(e) Total	31*	30	66	70	9	10	52	50	25*	23	61	57	139	134	60*	51	42	43	144	159	3	4	58	67	35*	35	725*	733
9·03. GRAND TOTAL	78	73	219	217	72	69	188*	185	126*	119	137	134	338	328	245	230	157	150	313*	318	13	16	149	149	99*	89	2,134*	2,077
10. *Increase + Decrease*—																												
10·01. Europeans	..	−4	..	−6	..	−4	..	−1	..	−5	..	+1	..	−5	..	−6	..	−8	..	−10	..	+2	..	−9	..	−10	..	−65
10·02. Statutory Indians— (a) Hindus	..	..	..	+4	..	−1	..	+4	..	−2	..	−3	..	+3	..	−6	..	+1	..	+12	..	..	..	+6	..	−1	..	+17
(b) Muslims	..	..	..	+1	..	+2	..	..	..	..	..	..	..	+1	..	+2	..	..	..	+3	..	+1	..	+1	..	−2	..	+9
(c) Anglo-Indians and domiciled Europeans.	..	−1	..	−4	..	..	..	−5	..	..	..	..	..	−8	..	−3	..	..	..	+1	..	..	..	+4	..	+5	..	−11
(d) Other classes	..	..	..	+3	..	..	..	−1	..	..	..	−1	..	−1	..	−2	..	..	..	−1	..	..	..	−2	..	−2	..	−7
(e) Total	..	−1	..	+4	..	+1	..	−2	..	−2	..	−4	..	−5	..	−9	..	+1	..	+15	..	+1	..	+9	..	..	..	+8
10·03. GRAND TOTAL	..	−5	..	−2	..	−3	..	−3	..	−7	..	−3	..	−10	..	−15	..	−7	..	+5	..	+3	..	..	..	−10	..	−57
11. *Percentage of total*—																												
11·01. Europeans	60·3	58·9	69·9	67·7	87·5	85·5	72·3	73·0	80·2	80·7	55·5	57·0	58·9	59·1	75·5	77·8	73·3	71·3	54·0	50·0	76·9	75·0	61·1	55·0	64·6	60·7	66·0	64·7
11·02. Statutory Indians— (a) Hindus	20·5	21·9	17·3	19·4	8·3	7·3	13·8	16·2	5·6	4·2	28·5	27·4	21·9	23·5	13·1	11·8	10·8	21·3	28·7	32·1	15·4	12·5	30·9	34·9	15·2	15·7	19·8	21·1
(b) Muslims	5·1	5·5	2·8	3·2	1·4	4·3	1·1	1·1	0·8	0·9	5·1	5·2	4·1	4·6	2·4	3·5	..	..	6·7	7·6	7·7	12·5	1·3	2·0	6·1	4·5	3·3	3·9
(c) Anglo-Indians and domiciled Europeans.	12·8	12·3	9·1	7·4	2·8	2·9	5·3	2·7	7·9	8·4	8·0	8·2	12·7	10·7	4·5	3·5	3·8	4·0	4·8	5·0	..	..	4·0	6·7	10·1	16·9	7·2	6·9
(d) Other classes	1·8	1·4	0·9	2·3	..	..	7·5	7·0	5·5	5·8	2·9	2·2	2·4	2·1	4·5	3·9	3·1	3·4	5·8	5·3	..	..	2·7	1·4	4·0	2·2	3·7	3·4

* Revised figures;

APPENDIX F—contd.

Statement of Subordinates, drawing Rs. 250 per mensem and over or on scales of pay rising to Rs. 250 per mensem and over, employed on Class I Railways, Railway Board and other Railway Offices (excluding H. E. H. the Nizam's State and Jodhpur Railways) on 1st April 1931 as compared with 1st April 1930.

Item.	A. B.		B. N.		B. & N. W.		B., B. & C.I.		BURMA.		E. B.		E. I.		G. I. P.		M. & S. M.		N. W.		R. & K.		S. I.		TOTAL.	
	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1. *Agency Department*—																										
1·01. Europeans	..	..	..	..	..	..	..	..	..	..	3*	3	2	1	2	1	..	..	1	..	..	..	..	..	8*	5
1·02. Statutory Indians—																										
(a) Hindus	2	2	5	5	1	1	5	11	5	5	12	13	17	15	2	3	2	2	8	9	1	1	3	3	63	70
(b) Muslims	..	..	..	..	..	..	3	3	1	1	..	..	2	1	..	..	..	..	..	1	..	..	..	..	6	6
(c) Anglo-Indians and domiciled Europeans	1	1	2	2	1	1	4	3	3	3	..	..	..	1	3	3	1	1	2	2	..	..	2	1	19	18
(d) Other classes	..	..	..	..	..	..	7	7	3	3	..	..	1	..	1	4	..	..	1	1	..	..	..	..	13	15
(e) Total	3	3	7	7	2	2	19	24	12	12	12	13	20	17	6	10	3	3	11	13	1	1	5	4	101	109
1·03. GRAND TOTAL	3	3	7	7	2	2	19	24	12	12	15*	16	22	18	8	11	3	3	12	13	1	1	5	4	109*	114
2. *Accounts Department*—																										
2·01. Europeans	..	..	..	..	..	..	2	1	..	..	..	..	18	16	1	1	..	..	2	..	..	..	..	..	23	18
2·02. Statutory Indians—																										
(a) Hindus	..	..	23	24	6	5	23	24	9	11	33	38	80	83	14	18	8	7	55	51	2	1	17	19	270	281
(b) Muslims	..	..	..	..	..	2	1	1	..	..	6	5	3	3	..	..	..	..	17	18	..	..	1	1	28	30
(c) Anglo-Indians and domiciled Europeans	..	..	39	38	7	7	14	13	12	11	7	6	17	12	14	14	9	10	2	4	..	..	5	5	126	120
(d) Other classes	..	..	..	..	1	1	12	14	..	..	..	..	..	1	9	9	1	2	9	10	..	..	..	..	32	37
(e) Total	..	..	62	62	14	15	50	52	21	22	46	49	100	99	37	41	18	19	83	83	2	1	23	25	456	468
2·03 GRAND TOTAL	..	..	62	62	14	15	52	53	21	22	46	49	118	115	38	42	18	19	85	83	2	1	23	25	479	486
3. *Engineering Department*—																										
3·01. Europeans	1	1	8	7	2	1	13	13	1	1	8*	9	62	52	26	31	10	9	42	50	2	2	4	5	179*	181
3·02. Statutory Indians—																										
(a) Hindus	9	9	67	58	6	6	72	76	48	43	46	44	127	117	89	71	19	16	146*	135	..	..	38	31	667*	606
(b) Muslims	2	2	7	8	4	4	14	13	1	1	4	4	8	10	23	22	..	..	80*	80	2	1	1	1	146*	146
(c) Anglo-Indians and domiciled Europeans	4	5	51	52	17	15	10	11	41	36	25*	21	113	114	67	64	27	26	43	36	1	1	17	16	416*	397
(d) Other classes	3	3	4	5	..	..	31	31	8	10	3*	3	4	6	23	32	..	..	39*	39	..	..	5	3	120*	132
(e) Total	18	19	129	123	27	25	127	131	98	90	78	72	252	247	202	189	46	42	308*	290	3	2	61	51	1,349*	1,281
3·03. GRAND TOTAL	19	20	137	130	29	26	140	144	99	91	86*	81	314	299	228	220	56	51	350*	340	5	4	65	56	1,528*	1,462

4. Transportation—																										
4·01. Europeans	1	1	26	27	10	11	37	36	7	7	28	27	122	116	187	201	..	..	132*	125	..	..	8	8	558*	559
4·02. Statutory Indians—																										
(a) Hindus	6	7	42	42	3	3	108	111	14	15	35*	38	61	52	64	68	4	4	62	75	..	..	15*	15	414*	430
(b) Muslims	..	..	6	5	1	1	8	6	3	3	1	1	10	10	12	13	..	..	14	24	..	..	1	1	56	64
(c) Anglo-Indians and domiciled Europeans	14	10	58	52	4	8	50	51	83	79	56	58	194	182	567	521	28	28	93	91	7	7	23	23	1,177	1,110
(d) Other classes	1	1	3	3	..	..	111	62	19	16	4	2	..	2	104	92	..	..	33	35	..	..	..	..	275	213
(e) Total	21	18	109	102	8	12	277	230	119	113	96*	99	265	246	747	694	32	32	202	225	7	7	39*	39	1,922*	1,817
4·03. GRAND TOTAL	22	19	135	129	18	23	314	266	126	120	124*	126	387	362	934	895	32	32	334*	350	7	7	47*	47	2,480*	2,376
5. Commercial—																										
5·01. Europeans	..		Included under Transportation.		2	2	Included under Transportation.						3	..	9	10	Included under Transportation.		12	9	Included under Transportation.		1	1	27	22
5.02. Statutory Indians—																										
(a) Hindus	3	2	..	..	..	..	..	..	..	..	..	..	27	27	35	34	..	..	17	14	..	..	5*	4	87*	81
(b) Muslims	..	..	..	..	..	..	..	..	..	..	..	..	5	4	5	4	..	..	5*	4	..	..	..	..	15*	12
(c) Anglo-Indians and domiciled Europeans	..	..	..	..	..	..	..	..	..	..	..	..	10	13	9	8	..	..	3*	3	..	..	..	..	22*	24
(d) Other classes	..	..	..	..	..	..	..	..	..	..	..	..	..	1	9	6	..	..	4	3	..	..	..	..	13	10
(e) Total	3	2	..	..	..	..	..	..	..	..	..	..	42	45	58	52	..	..	29*	24	..	..	5*	4	137	127
5·03. GRAND TOTAL	3	2	..	..	2	2	..	..	..	..	..	..	45	45	67	62	..	..	41*	33	..	..	6*	5	164	149
6. Mechanical Engineering—																										
6·01. Europeans	15	14	192	169	13	12	69	66	15	17	67*	63	325	346	51	60	78	77	102	207	4	4	30	29	1,051*	1,064
6·02. Statutory Indians—																										
(a) Hindus	3	3	17	12	..	..	45	47	8	9	23	26	103	116	24	23	6	5	59*	58	1	1	14	18	303*	318
(b) Muslims	..	1	1	2	1	..	6	11	..	..	3	3	16	15	1	1	1	..	58	51	..	..	..	..	87	84
(c) Anglo-Indians and domiciled Europeans	16	14	174	228	19	23	293	295	128	127	82*	84	601	513	118	117	98	111	202	191	3	4	126	121	1,860*	1,828
(d) Other classes	3	4	13	9	..	..	55	53	19	21	4	4	5	9	32	28	7	7	45	51	1	1	3	3	187	190
(e) Total	22	22	205	251	20	23	399	406	155	157	112*	117	725	653	175	169	112	123	364*	351	5	6	143	142	2,437*	2,420
6·03. GRAND TOTAL	37	36	397	420	33	35	468	472	170	174	179	180	1,050	999	226	229	190	200	556*	558	9	10	173	171	3,488*	3,484
7. Stores Department—																										
7·01. Europeans	..	..	..	..	..	..	3	3	..	..	1	1	8	6	3	4	..	1	6	4	..	..	..	..	21	19
7·02. Statutory Indians—																										
(a) Hindus	1	1	8	7	..	..	7	7	5	4	8*	12	16	18	2	3	1	1	23	18	..	..	3	2	74*	73
(b) Muslims	..	..	..	..	..	..	1	1	..	..	..	..	2	2	..	..	..	..	6	8	..	..	..	..	9	11
(c) Anglo-Indians and domiciled Europeans	1	1	13	12	1	1	1	1	..	..	5	5	21	26	2	2	3	3	6	10	..	..	3	3	56	64
(d) Other classes	..	..	1	2	..	..	5	4	..	..	..	..	..	..	3	1	..	..	6	5	..	..	..	..	15	12
(e) Total	2	2	22	21	1	1	14	13	5	4	13*	17	39	46	7	6	4	4	41	41	..	..	6	5	154*	160
7·03. GRAND TOTAL	2	2	22	21	1	1	17	16	5	4	14*	18	47	52	10	10	4	5	47	45	..	..	6	5	175*	179

* Revised figures.

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APPENDIX F—concld.

Statement of Subordinates, drawing Rs. 250 per mensem and over or on scales of pay rising to Rs. 250 per mensem and over, employed on Class I Railways, Railway Board and other Railway Offices (excluding H. E. H. the Nizam's State and Jodhpur Railways) on 1st April 1931 as compared with 1st April 1930—concld.

Item.	A. B.		B. N.		B. & N. W.		B., B. & C. I.		BURMA.		E. B.		E. I.		G. I. P.		M. & S. M.		N. W.		R. & K.		S. I.		TOTAL.	
	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
8. *Other Departments*—																										
8·01. Europeans	3	4	30	34	..	2	18*	15	..	..	..	1	72*	65	5*	1	2	2	4*	8	..	..	2	3	136*	135
8·02. Statutory Indians—																										
(a) Hindus	6	7	32*	40	*..	..	35*	34	18*	15	13*	12	66*	66	9*	12	11*	14	8*	6	*..	..	1*	2	199*	208
(b) Muslims	..	..	1	1	..	..	1*	1	5	5	1*	2	7*	5	1	..	..	..	*..	1	..	..	4*	1	20*	16
(c) Anglo-Indians and domiciled Europeans	4	3	42*	50	13*	12	20*	19	3*	3	6*	5	58*	60	8*	8	11*	11	14*	14	1	1	1*	..	181*	186
(d) Other classes	..	..	4	4	*..	..	16*	16	10	13	..	..	2	2	15*	13	4*	3	6*	3	..	..	1	2	58*	56
(e) Total	10	10	79*	95	13*	12	72*	70	36*	36	20*	19	133*	133	33*	33	26*	28	28*	24	1*	1	7*	5	458*	466
8·03. GRAND TOTAL	13	14	109*	129	13*	14	90*	85	36*	36	20*	20	205*	198	38*	34	28*	30	32*	32	1*	1	9*	8	594*	601
9. *Railway Board and other Railway offices*—																										
9·01. Europeans	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	4
9·02. Statutory Indians—																										
(a) Hindus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	153*	145
(b) Muslims	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	22*	22
(c) Anglo-Indians and domiciled Europeans	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29*	27
(d) Other classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20	21
(e) Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	224*	215
9·03. GRAND TOTAL	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	229	219
10. *Total*—																										
10·01. Europeans	20	20	256	237	27	28	142*	134	23	25	107*	104	612	602	284	309	90	89	391*	408	6	6	45	46	2,008*	2,007
10·02. Statutory Indians—																										
(a) Hindus	30	31	194	188	16	15	295*	310	107*	102	170	183	497	494	239	232	51	49	378*	366	4	3	96	94	2,230*	2,212
(b) Muslims	2	3	15	16	6	7	34	36	10	10	15*	15	53	50	42	40	1	..	180*	187	2	1	7	4	389*	391
(c) Anglo-Indians and domiciled Europeans	40	34	379	434	62	67	392*	393	270*	259	181*	179	1,014	921	788	737	177	190	365*	351	12	13	177	169	3,886*	3,774
(d) Other classes	7	8	25	23	1	1	237	187	59	63	11*	9	12	21	196	185	12	12	143*	147	1	1	9	8	733*	686
(e) Total	79	76	613	661	85	90	958*	926	446*	434	377*	386	1,576	1,486	1,265	1,194	241	251	1,066*	1,051	19	18	289	275	7,238*	7,063
10·03. GRAND TOTAL	99	96	869	898	112	118	1,100*	1,060	469*	459	484	490	2,188	2,088	1,549	1,503	331	340	1,457*	1,454	25	24	334	321	9,246*	9,070

11. *Increase + Decrease* —																										
11·01. Europeans	..	..	..	—19	..	+1	..	—8	..	+2	..	—8	..	—10	..	+25	..	—1	..	+12	..	..	..	+1	..	—1
11·02. Statutory Indians—																										
(a) Hindus	..	+1	..	—6	..	—1	..	+15	..	—5	..	+13	..	—3	..	—7	..	—2	..	—12	..	—1	..	—2	..	—18
(b) Muslims	..	+1	..	+1	..	+1	..	+2	..	..	..	..	..	—3	..	—2	..	—1	..	+7	..	—1	..	—3	..	+2
(c) Anglo-Indians and domiciled Europeans	..	—6	..	+55	..	+5	..	+1	..	—11	..	—2	..	—93	..	—51	..	+18	..	—14	..	+1	..	—8	..	—112
(d) Other classes	..	+1	..	—2	..	..	..	—50	..	+4	..	—2	..	+9	..	—11	..	..	..	+4	..	..	..	—1	..	—47
(e) Total	..	—3	..	+48	..	+5	..	—32	..	—12	..	+9	..	—90	..	—71	..	+10	..	—15	..	—1	..	—14	..	—175
11·03. GRAND TOTAL	..	—3	..	+29	..	+6	..	—40	..	—10	..	+6	..	—100	..	—46	..	+9	..	—3	..	—1	..	—13	..	—176
12. *Percentage of total*—																										
12·01. Europeans	20·2	20·8	29·5	26·4	24·1	23·7	12·9	12·6	4·9	5·5	22·1	21·2	27·9	28·8	18·3	20·6	27·2	26·2	26·8	27·7	24·0	25·0	13·5	14·4	21·7	22·1
12·02. Statutory Indians—																										
(a) Hindus	30·3	32·3	22·3	20·9	14·3	12·7	26·8	29·2	22·8	22·2	35·1	37·4	22·7	23·7	15·4	15·4	15·4	14·4	25·9	25·2	16·0	12·5	28·7	29·4	24·1	24·4
(b) Muslims	2·0	3·1	1·7	1·8	5·3	5·9	3·1	3·4	2·1	2·2	3·1	3·1	2·4	2·4	2·7	2·7	0·3	..	12·4	12·9	8·0	4·2	2·1	1·2	4·2	4·3
(c) Anglo-Indians and domiciled Europeans	40·5	35·4	43·6	48·3	55·4	56·8	35·6	37·1	57·6	56·4	37·4	36·5	46·5	44·1	50·9	49·0	53·5	55·9	25·1	24·1	48·0	54·2	53·0	52·5	42·1	41·6
(d) Other classes	7·0	8·4	2·9	2·6	0·9	0·9	21·6	17·7	12·6	13·7	2·3	1·8	0·5	1·0	12·7	12·3	3·6	3·5	9·8	10·1	4·0	4·1	2·7	2·5	7·9	7·6

* Revised figures.

APPENDIX G.

Statement showing the number of appointments created and vacancies which occurred among officers of Gazetted rank on State Railways and of corresponding rank on Companies' Railways (Class I) excluding H. E. H. the Nizam's State and Jodhpur Railways, and how they were filled during 1930-31.

Departments.	Number of vacancies which occurred in previous years not filled in those years remaining to be filled.	Number of new appointments created during the year.	Number of vacancies which occurred during the year.	Number of appointments abolished during the year.	Number of net vacancies to be filled.	Number of vacancies not filled up during the year.	Number of vacancies actually filled.	FILLED BY: Europeans.	FILLED BY: Statutory Indians: Hindus.	Muslims.	Anglo-Indians and domiciled Europeans.	Other classes.	TOTAL.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
State Worked Railways.													
1. Agency	1	..	..	..	1	1	..	..	..	..	..	..	..
2. Accounts	..	..	2	..	2	..	2	1	..	..	1	..	1
3. Engineering	6	..	10	..	16	2	14	2	7	3	1	1	12
4. Transportation and Commercial.	14	..	13	..	27	2	25	4	7	1	12	1	21
5. Mechanical	1	..	9	..	10	..	10	2	2	1	4	1	8
6. Stores	3	..	2	..	5	2	3	..	1	..	1	1	3
7. Other Departments	..	1	5	..	6	..	6	3	3	..	..	..	3
8. TOTAL . 1930-31	25	1	41	..	67	7	60	12	20	5	19	4	48
8. TOTAL . 1929-30	52	2	46	..	100	52	48	16	20	5	4	3	32
9. Percentage of Europeans to number of vacancies filled. 1930-31	20·0												
9. Percentage of Europeans to number of vacancies filled. 1929-30	33·3												
10. Percentage of Statutory Indians to number of vacancies filled. 1930-31	80·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	66·7												
Other Railways.													
Assam Bengal Railway.													
1. Agency	..	..	..	..	..	..	..	..	..	..	..	..	..
2. Accounts	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Engineering	..	2	..	2	..	..	..	..	..	..	..	..	..
4. Transportation and Commercial.	2	..	..	..	2	..	2	..	2	..	..	..	2
5. Mechanical	..	..	2	..	2	1	1	1	..	..	..	..	..
6. Stores	..	..	..	..	..	..	..	..	..	..	..	..	..
7. Other Departments	..	..	1	..	1	..	1	1	..	..	..	..	..
8. TOTAL . 1930-31	2	2	3	2	5	1	4	2	2	..	..	..	2
8. TOTAL . 1929-30	1	1	4	..	6	2	4	1	..	..	3	..	3
9. Percentage of Europeans to number of vacancies filled. 1930-31	50·0												
9. Percentage of Europeans to number of vacancies filled. 1929-30	25·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1930-31	50·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	75·0												

APPENDIX G—*contd.*

Statement showing the number of appointments created and vacancies which occurred among officers of Gazetted rank on State Railways and of corresponding rank on Companies' Railways (Class I) excluding H. E. H. the Nizam's State and Jodhpur Railways, and how they were filled during 1930-31—contd.

Departments.	Number of vacancies which occurred in previous years not filled in those years remaining to be filled.	Number of new appointments created during the year.	Number of vacancies which occurred during the year.	Number of appointments abolished during the year.	Number of net vacancies to be filled.	Number of vacancies not filled up during the year.	Number of vacancies actually filled.	FILLED BY: Europeans.	FILLED BY: Statutory Indians: Hindus.	Muslims.	Anglo-Indians and domiciled Europeans.	Other classes.	TOTAL.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Bengal and North-Western Railway.													
1. Agency	..	1	..	..	1	..	1	1	..	..	..	..	..
2. Accounts	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Engineering	..	..	3	..	3	..	3	..	..	2	1	..	3
4. Transportation and Commercial.	..	..	3	..	3	2	1	..	..	1	..	..	1
5. Mechanical	..	..	..	..	..	..	..	..	..	..	..	..	..
6. Stores	..	..	..	..	..	..	..	..	..	..	..	..	..
7. Other Departments	..	..	..	..	..	..	..	..	..	..	..	..	..
8. TOTAL 1930-31	..	1	6	..	7	2	5	1	..	3	1	..	4
8. TOTAL 1929-30	*2	*1	4	..	7	*1	*6	3	*2	1	..	..	*3
9. Percentage of Europeans to number of vacancies filled. 1930-31	20·0												
9. Percentage of Europeans to number of vacancies filled. 1929-30	50·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1930-31	80·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	50·0												
Bengal Nagpur Railway.													
1. Agency	..	..	..	..	..	..	..	..	..	..	..	..	..
2. Accounts	..	1	1	..	2	2	..	..	..	..	..	..	..
3. Engineering	4	4	7	14	1	3	—2	—1	..	—1	..	..	—1
4. Transportation and Commercial.	1	7	1	..	9	3	6	1	2	1	..	2	5
5. Mechanical	1	2	4	1	6	..	6	3	2	..	..	1	3
6. Stores	1	..	..	..	1	1	..	..	..	..	..	..	..
7. Other Departments	2	..	1	1	2	..	2	1	1	..	..	..	1
8. TOTAL 1930-31	9	14	14	16	21	9	12	4	5	..	..	3	8
8. TOTAL 1929-30	7	4	10	..	21	4	17	11	3	..	3	..	6
9. Percentage of Europeans to number of vacancies filled. 1930-31	33·3												
9. Percentage of Europeans to number of vacancies filled. 1929-30	64·7												
10. Percentage of Statutory Indians to number of vacancies filled. 1930-31	66·7												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	35·3												
Bombay, Baroda and Central India Railway.													
1. Agency	1	1	..	..	2	1	1	1	..	..	..	..	..
2. Accounts	1	..	1	1	1	..	1	..	1	..	..	..	1
3. Engineering	4	3	2	..	9	7	2	..	2	..	..	..	2
4. Transportation and Commercial.	1	..	..	..	1	1	..	..	..	..	..	..	..
5. Mechanical	2	..	6	..	8	1	7	5	2	..	..	..	2
6. Stores	..	..	..	..	..	..	..	..	..	..	..	..	..
7. Other Departments	1	1	3	..	5	2	3	3	..	..	..	..	..
8. TOTAL 1930-31	10	5	12	1	26	12	14	9	5	..	..	..	5
8. TOTAL 1929-30	12	2	*14	4	*24	*10	14	7	5	..	..	2	7
9. Percentage of Europeans to number of vacancies filled. 1930-31	64·3												
9. Percentage of Europeans to number of vacancies filled. 1929-30	50·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1930-31	35·7												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	50·0												

* Revised figures.

APPENDIX G—*concld.*

Statement showing the number of appointments created and vacancies which occurred among officers of Gazetted rank on State Railways and of corresponding rank on Companies' Railways (Class I) excluding H. E. H. the Nizam's State and Jodhpur Railways, and how they were filled during 1930-31—concld.

Departments.	Number of vacancies which occurred in previous years not filled in those years remaining to be filled.	Number of new appointments created during the year.	Number of vacancies which occurred during the year.	Number of appointments abolished during the year.	Number of net vacancies to be filled.	Number of vacancies not filled up during the year.	Number of vacancies actually filled.	FILLED BY: Europeans.	Statutory Indians: Hindus.	Statutory Indians: Muslims.	Statutory Indians: Anglo-Indians and domiciled Europeans.	Statutory Indians: Other classes.	Statutory Indians: TOTAL.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Madras and Southern Mahratta Railway.													
1. Agency	..	..	..	..	..	..	..	..	..	..	..	..	..
2. Accounts	..	..	2	..	2	1	1	1	..	..	..	..	..
3. Engineering	9	4	7	3	17	3	14	5	9	..	..	..	9
4. Transportation and Commercial.	2	..	..	..	2	..	2	1	1	..	..	..	1
5. Mechanical	..	..	..	..	..	..	..	..	..	..	..	..	..
6. Stores	..	..	..	..	..	..	..	..	..	..	..	..	..
7. Other Departments	1	..	..	..	1	1	..	..	..	..	..	..	..
8. TOTAL 1930-31	12	4	9	3	22	5	17	7	10	..	..	..	10
8. TOTAL 1929-30	*14	7	6	6	*21	*12	9	1	7	..	..	1	8
9. Percentage of Europeans to number of vacancies filled. 1930-31	41·2												
9. Percentage of Europeans to number of vacancies filled. 1929-30	11·1												
10. Percentage of Statutory Indians to number of vacancies filled. 1930-31	58·8												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	88·9												
Rohilkund and Kumaon Railway.													
1. Agency	..	..	..	..	..	..	..	..	..	..	..	..	..
2. Accounts	..	..	1	..	1	..	1	..	1	..	..	..	1
3. Engineering	1	..	..	..	1	..	1	..	..	1	..	..	1
4. Transportation and Commercial.	..	..	..	..	..	..	..	..	..	..	..	..	..
5. Mechanical	..	..	..	..	..	..	..	..	..	..	..	..	..
6. Stores	..	..	..	..	..	..	..	..	..	..	..	..	..
7. Other Departments	..	..	..	..	..	..	..	..	..	..	..	..	..
8. TOTAL 1930-31	1	..	1	..	2	..	2	..	1	1	..	..	2
8. TOTAL 1929-30	..	..	*1	..	*1	*1	..	..	..	..	..	..	..
9. Percentage of Europeans to number of vacancies filled. 1930-31	..												
9. Percentage of Europeans to number of vacancies filled. 1929-30	..												
10. Percentage of Statutory Indians to number of vacancies filled. 1930-31	100·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	..												
South Indian Railway.													
1. Agency	..	..	..	..	..	..	..	..	..	..	..	..	..
2. Accounts	..	1	1	..	2	..	2	..	2	..	..	..	2
3. Engineering	3	8	6	11	6	3	3	..	..	1	2	..	3
4. Transportation and Commercial.	..	8	1	1	8	5	3	..	1	..	2	..	3
5. Mechanical	1	1	1	..	3	1	2	2	..	..	..	..	..
6. Stores	1	2	..	1	2	1	1	..	1	..	..	..	1
7. Other Departments	..	..	1	..	1	1	..	..	..	..	..	..	..
8. TOTAL 1930-31	5	20	10	13	22	11	11	2	4	1	4	..	9
8. TOTAL 1929-30	*15	*7	*9	*14	*17	5	*12	*2	*8	..*	1	1	*10
9. Percentage of Europeans to number of vacancies filled. 1930-31	18·2												
9. Percentage of Europeans to number of vacancies filled. 1929-30	16·7												
10. Percentage of Statutory Indians to number of vacancies filled. 1930-31	81·8												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	83·3												

* Revised figures.

APPENDIX H.

Officers of the Railway Department (Railway Board) on 31st March, 1931.

The Hon'ble Sir GEORGE RAINY, K.C.S.I., K.C.I.E., I.C.S., Member of Council of Governor General.

Railway Board.

Mr. T. G. Russell	Chief Commissioner of Railways.
Mr. A. A. L. Parsons, C.I.E., I.C.S.	Financial Commissioner of Railways.
Mr. A. M. Hayman, O.B.E.	Member.
Mr. M. W. Brayshay	Do.
Mr. H. A. M. Hannay	Do.

Mr. R. H. Irani	Director, Civil Engineering (Offg.).
Mr. F. J. Page, O.B.E.	Director, Mechanical Engineering.
Mr. C. P. Colvin, O.B.E.	Director, Traffic (Offg.).
Mr. P. R. Rau, M.A.	Director, Finance.
Mr. J. C. Highet, F.C.H.	Director, Establishment.
Mr. P. H. Maflin, O.B.E., M.C.	Secretary (on leave).
Mr. J. F. Blackwood	Secretary (Offg.).
Mr. A. M. Ali	Deputy Secretary (Offg.).
Mr. G. C. Laughton	Deputy Director, Civil Engineering (Offg.).
Mr. T. G. Creighton	Deputy Director, Mechanical Engineering (Offg.).
Mr. E. V. MacLean	Deputy Director, Traffic and Statistics (Offg.).
Mr. H. J. M. de Lange	Deputy Director, Finance (On leave).
Mr. T. S. Sankara Aiyar, B.A., B.E.	Deputy Director, Finance (Offg.).
Mr. T. K. Nana Rao	Assistant Director, Finance (Offg.).
Mr. E. C. Rundlett	Chief Superintendent.

Honorary Assistant Personnel Officer.

Rai Bahadur Ishar Das Puri	Honorary Assistant Personnel Officer.

Attached Officers.

Mr. H. C. B. Jollye, B.A.	Timber Advisory Officer.
Mr. P. B. Chandwani, M.A.	Officer on Special Duty.
Mr. F. D'Souza	Do. do.
Mr. N. D. Calder	Do. do.
Mr. K. M. Hassan	Do. do.
Khan Bahadur Barkat Ali	Do. do.
Major H. W. Wagstaff, M.C., R.E.	Supervisor of Railway Labour.
Mr. M. S. Gregory, M.C., V.D.	Officer on Special Duty.
Mr. W. H. Scott	Do. do.
Mr. H. G. Salmond	Do. do.
Mr. W. E. Smith	Do. do.
Mr. Dev Dutta	Do. do.

Controller of Railway Accounts.

Mr. M. K. Mitra, M.A.	Controller of Railway Accounts.
Mr. I. S. Puri, M.A.	Deputy Controller of Railway Accounts.
Mr. Yaqub Shah, M.A.	Assistant Controller of Railway Accounts.
Mr. C. N. Bhan	Assistant Accounts Officer.
Mr. Gopal Nath Mehra	Do. do.

MGIPC—L—X-23-29-1-32-1,200.